

Effect of an Integrated Breast Health Program for Pregnant Women on Knowledge, Attitude, and Early Screening Practice Related to Breast Cancer

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Introduction

The incidence rate of cancer is increasing annually in Korea, and cancer is the most common cause of death among middle-aged Koreans [1]. Breast cancer has been the most common cancer among women in Korea since 2001, and its incidence continues to increase [2]. Although the rate of breast cancer among Korean women is still low compared to Western countries, there is a high probability that these differences will diminish due to the popularity of Western diet and lifestyle, increasing rates of obesity, alcohol consumption, and smoking. Social factors, such as late marriages with changes in traditional values as well as decreasing birth and breastfeeding rates are also projected to contribute to a future increase in breast cancer cases among Korean women [2,3].

Early diagnosis and treatment are strongly recommended for breast cancer. While breast cancer rates are the highest for women in their 50's in the West, it mainly occurs in women in their 40's in Korea, and this rate is also increasing among women in 40's [3]. While mammography is an effective method for the early detection of breast cancer [4], it may be difficult to detect cancerous changes in younger women due to the presence of denser tissues. There may also be limited access issues for younger women in their 30's and 40's, as many health policies follow breast cancer screening guidelines for annual mammography after the age of 40 in the West [5], or biennial regular mammography

after 40, such as those offered by the Korean government [6]. Furthermore, as this age may coincide with childbearing, if women need a breast examination during antenatal care, it is difficult to perform clinical tests like mammography. Thus, it is very important to establish effective practices to prevent breast cancer and manage breast health.

Many women come to appreciate and have an interest in their breasts during pregnancy and post-childbirth [7]. Recently, an emphasis on breastfeeding education has been invigorated not only in local hospitals, but also at the national level through public health centers, and many pregnant women have been attending antenatal breastfeeding education programs [8,9]. Prior studies [10,11] emphasize that to alert women about breast cancer, early screening for breast cancer during pregnancy is required, and pregnant women should be educated to detect and treat any abnormalities through regular breast examinations.

An integrated approach toward breast health would be an educational program that includes breastfeeding and prevention of breast cancer as an antenatal program during pregnancy. Educating and encouraging the importance of early screening and preventive health behavior through such a program can be an effective strategy after birth to your own breasts continually as well as figure out enough to manage the ongoing. However, breast cancer generally occurs in middle-aged women, and most young women often do not feel the need for the management of breast cancer [12,13]. Particularly, considering that the average

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age of occurrence of breast cancer is continually decreasing, and the age of first pregnancy among women in their 30's is gradually increasing in Korea, a breast health program targeting young women is needed.

Previous breast health programs [14,15] were developed for middle-aged women or college students, and most of them were one-time education programs that were completed within two hours and focus on breast cancer prevention and early detection. For pregnant women, despite the importance of breast health given the growing recognition of the issue, there is only limited information provided on breastfeeding or breast care specific to pregnancy focused on management, and most antenatal care programs seldom provide breast management comprehensively, including both breastfeeding and breast care for the health of pregnant women.

Therefore, this study developed and evaluated an integrated breast health program for pregnant women to promote early screening for breast cancer. The specific purposes of the study were as follows: (1) To develop a breast health program that would integrate breastfeeding education, breast cancer prevention, and early screening. (2) To evaluate the effects of the developed program on knowledge and attitude about breast cancer and breast self-examination (BSE) and the actual practice of breast cancer screening (breast self-examination, mammography, clinical breast examination, and breast ultrasonography) after childbearing. This study hypothesized that the experimental group will have significantly increased knowledge and attitude about breast cancer, BSE, and early screening practice of breast cancer after participating in the integrated breast health program.

Methods

Design

This study aimed to develop interventions to support and continuously manage breast health in pregnant women following their discharge from a hospital, and it employed a non-equivalent control group and non-synchronized design where data collection of the control group was completed before the experimental group to avoid diffusion effects (Table 1).

Sample and setting

The participants were 51 healthy pregnant women who met the following eligibility criteria for receiving antenatal care which included breastfeeding education at one women's hospital in I city, Korea: 1) primipara, 2) more than 28 weeks pregnant, 3) without breast disease, and 4) never underwent regular breast examinations in hospitals. The third trimester along with heightened interest in childbirth begins from 28 gestational weeks, and it is not only the time to start preparing for childbirth, but most hospitals offer antenatal classes during this time.

The sample size needed for 2-tailed *t* tests was calculated using the G* Power 3.1.7 program. We obtained 26 as the proper sample size per group, with a significance level (α) of 0.05, a power ($1-\beta$) of 0.80, and a large effect (*d*) of 0.8. We considered an actual effect size (*d*) of 1.38 for breast cancer prevention education using an interchangeable nodule model [15]. Considering a drop-out rate of 20%, we adjusted the target sample size to 32 people in each group and 64 in total. Of the 27 women in the experimental group, two had incomplete survey answers, one had insufficient attendance in the program, and two could not be reached during the post-delivery period, leaving 22 in the group. Of the 32 women in the control group, one had incomplete

〈Table 1〉 Research Design

Group	Time	≥ GA 28 weeks	3 months after program	6 months after program	12 months after program
Experimental	Pre-test	E1			
	Post-test	X1	E2	E3	E4
Control	Pre-test	C1			
	Post-test	X2	C2	C3	C4

GA=gestational age; X1=integrated breast health program; X2=usual care; E1, C1= pre-test before program; E2, C2=post-test while being hospitalized for delivery (knowledge about and attitude toward breast cancer and BSE); E3-E4, C3-C4=post-test at 6 and 12 months after the program by telephone (early screening practice of breast cancer).

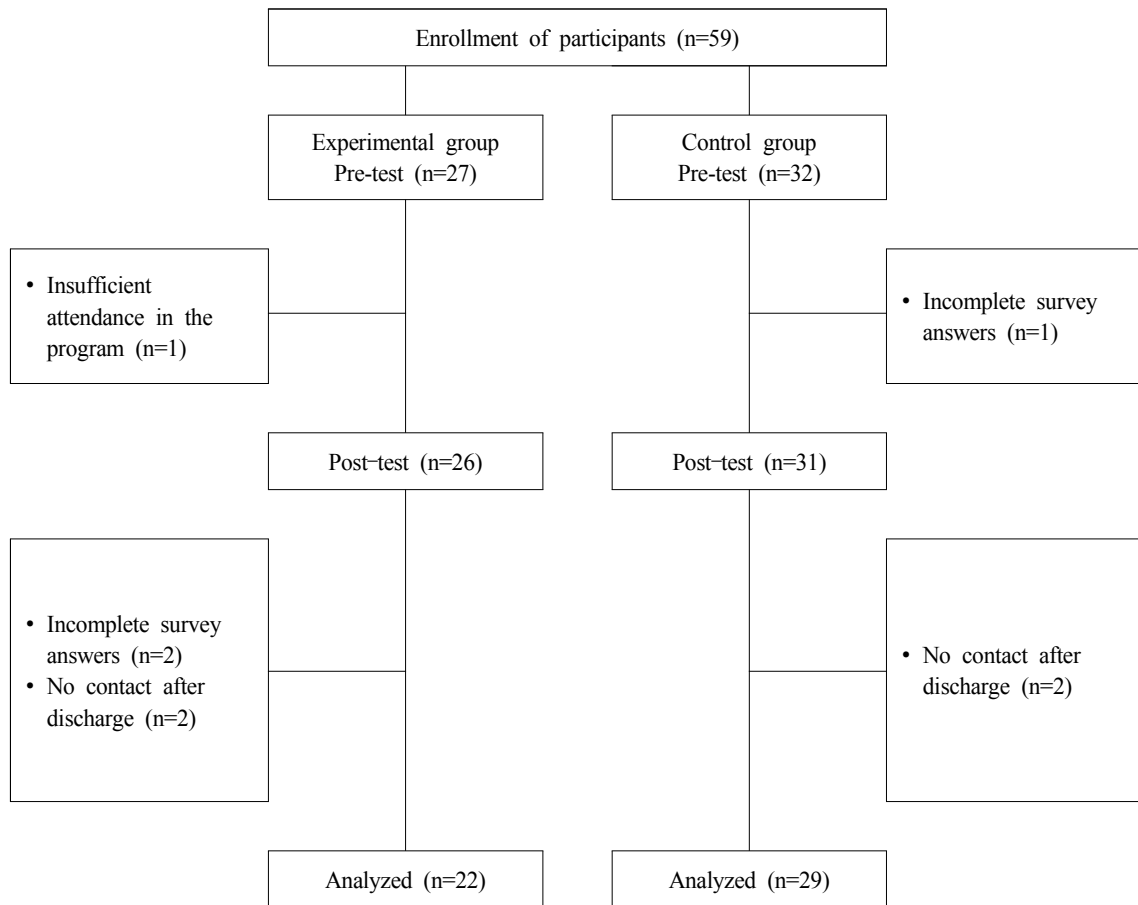


Figure 1. Flow Chart of the Study Participants

survey answers, and two could not be reached during the postpartum period, leaving 29 in the group. At the end of the program, 22 and 29 clients were left in the experimental and control group respectively (Figure 1). To verify the validity of this sample size, we conducted another power analysis by Cohen with the results of the study and obtained an effect size of 1.42. When we performed a post-hoc test with a significance level of 0.05, we obtained a power of 0.81, which confirms that our sample size was valid, and the chosen effect of 0.8 was appropriate.

Procedures

The study was approved by the institutional review board and conducted at the H Women’s Hospital in I City, Korea. We recruited the participants through the staff, posted announcements, and website advertisements of the hospital. For pregnant women

who showed an interest, we explained the purpose and process of the study and obtained informed consent.

There was an antenatal care educational program every month for pregnant women at H Women’s Hospital, which had received the participants before the program. Thus, we used the antenatal care educational program of the hospital for this study; to avoid diffusion effects, the control group was first selected and data were collected thrice. Subsequently, the experimental group was recruited, and data were collected thrice from women who wanted to participate in the integrated breast health program among the antenatal care educational program of the hospital.

The intervention was delivered to the three groups of under 10 persons and provided at the hospital by the researcher to ensure consistency. The program consisted of two sessions. The first session was conducted by a hospital nurse, who was in charge of the program. The second session was offered by a researcher, and the hospital nurse attended this session. The program consisted of

lectures, demonstrations, and questions and answers; each session was two-hour-long. After the program, we provided a pink ribbon badge made by the Korea Breast Cancer Foundation and a small gift containing baby goods to the experimental group. For the control group, women received usual care that included general breastfeeding education, consisting of two hours of lectures.

At the beginning of the study, participants were surveyed about their knowledge and attitude regarding breast cancer, BSE, and early screening practices in the form of a self-report questionnaire distributed and collected on-site by a research assistant. The post-test on knowledge and attitude of the experimental and control groups was taken via a self-report questionnaire after delivery before discharge from the hospital (within three months after the program) and collected by nursing staff. The frequency of practicing early screening for breast cancer was assessed at 6 and 12 months after the program through phone-call questionnaires by the research assistant.

Intervention

For the development of an integrated breast health program, it was acknowledged that most educational interventions for breast cancer prevention were one-time [14,15]. Contents of the education program for early breast cancer screening developed by Jeong and Seo [16] and literature analysis formed the basis of developing our program. Educational content related to breastfeeding was also included because the participants were pregnant women.

The integrated breast health program consisted of two sessions of the antenatal care educational program offered at the hospital. The first session was composed of “breastfeeding and breast care” to understand changes in breasts due to pregnancy and focus on breastfeeding, such as breast management for breastfeeding and breastfeeding methods. Since the general breastfeeding education offered by the hospital was similar to this program’s first session, we requested the hospital nurse to revise the previous program after explaining the purpose of education and its content.

The second session was composed of “breast health and self-management,” the importance of early detection of breast cancer, the necessity of early breast cancer screening, and screening methods. This study focused on the importance of early detection of breast cancer and various methods (breast self-examination, clinical breast examination, mammography, and ultrasonography) through lectures and BSE demonstrations, with

the breast cancer training model LM-017 (Koken Co., Ltd). We distributed educational material, BSE instruction sheets, and checklists to keep track of breast health practices and also used a clinical bead accessory made by a researcher to encourage participants to touch the beads and feel the size of lumps. This was verified by an expert panel of breast surgeons, nurses, cancer survivors, and nursing professors in a previous study [17].

Measures

Knowledge about breast cancer and BSE

Knowledge about breast cancer and BSE was measured using a scale developed by Lee [18]. The questionnaire consisted of 16 items related to breast cancer and BSE, such as the incidence age, risk factors, early detection, methods, and practices of BSE. It consisted of dichotomous items, and the correct response was assigned 1; incorrect, 0. The range of possible scores was 0-16, with higher scores indicating greater knowledge. The reliability of the questionnaire was not provided for the original study, but the Kuder-Richardson-20 was 0.81 in Kim and Park [19] and this study.

Attitude about breast cancer and BSE

Attitude regarding breast cancer and BSE were tested and measured based on a 17-item tool developed by Kim [20]. The questionnaire included four questions about the seriousness of cancer, five questions relating to the attitude and understanding toward breast cancer and BSE, two questions about the importance of BSE, three questions about related material about understanding and attitude toward BSE, two questions about the attitude towards precaution methods of cancer, and one question about the attitude toward cancer treatment. It is rated on a five-point Likert scale (1 = not at all to 5 = very much), with higher scores indicating a more positive attitude. Cronbach’s alpha was 0.66 in the original study [20] and 0.94 in this study.

Early screening practice of breast cancer

Early screening practice of breast cancer was measured by whether women had practiced BSE or received mammography, clinical breast examination, and breast ultrasonography at 6 and 12 months after the program.

Data analysis

The homogeneity of the two groups was verified using chi-square tests and Fisher's exact test. The Kolmogorov-Smirnov test was used to test the normal distribution of variables; however, normality was not ensured. Thus, the hypothesis test of the pre-and post-differences between the experimental and control groups was performed using Mann-Whitney U tests and Chi-square tests. Data were analyzed using SPSS Statistics software, version 18.0.

Ethical consideration

This study was reviewed and approved by the Institutional Review Board of D University, Korea (1040647-201602-HR-001-03). The researcher explained to participants that the results of the study would not be publicized or used except for research purposes, that their private information would not be revealed, and that they would remain anonymous and could refuse or drop out of the study whenever they wished. It was explained that the data would be stored in a locked box and that they would be crushed and discarded after completing this study. Participants who voluntarily participated in the study were asked to provide written informed consent.

Results

Participant's Characteristics

Table 2 presents the general characteristics of the 51 participants (22 experimental and 29 control). Both groups had no differences in the baseline data (age, religion, education, employment, BSE learning experience, and BSE recommendations. Additionally, the experimental and control groups were similar in breast cancer and BSE knowledge, attitude, and early screening practices at baseline (Table 3).

The effect of the Integrated Breast Health Program

The knowledge level of the experimental group that had attended the integrated breast health program increased during the early postpartum period, which was statistically significant compared to the control group ($Z=5.02$, $p<.001$). Attitude toward breast cancer also improved significantly in the experimental group ($Z=3.43$, $p<.01$) (Table 4).

We found that the program was also effective in some early screening practices for breast cancer in the experimental group. The BSE practice rate for the experimental group was 45.5% at 6 months and 77.3% at 12 months after the program. This

〈Table 2〉 Homogeneity of the Two Groups

(N=51)

Variables	Categories	Exp. (n=22)	Cont. (n=29)	χ^2	p
		n (%)	n (%)		
Age (year)	≥ 30	7(31.8)	13(44.8)	.88	.344
	≤ 29	15(68.2)	16(55.2)		
Religion	None	10(45.5)	12(41.4)	.08	.767
	Yes	12(54.5)	17(58.6)		
Last formal education	College	19(86.4)	27(93.1)	.64	.416
	Graduate school and higher	3(13.6)	2(6.9)		
Employment	Non-employed	15(68.2)	16(55.2)	.88	.344
	Employed	7(31.8)	13(44.8)		
Plan of feeding method	Breastfeeding	20(90.9)	24(82.8)	.70	.403
	Mixed Feeding	2(9.1)	5(17.2)		
Learning experience about BSE	Yes	9(40.9)	5(17.2)	3.51	.061
	No	13(59.1)	24(82.8)		
Have recommended BSE	Yes	6(27.3)	8(27.6)	.00	.983
	No	16(72.7)	21(72.4)		

Exp.=experimental group; Cont.=control group; BSE=breast self examination.

showed a statistically significant difference compared to the rate of the control group of 6.9% and 20.7%, respectively ($\chi^2=10.33$, $p<.01$) ($\chi^2=16.17$, $p<.001$). As for mammography, 36.4% of the experimental group and 10.3% of the control group underwent mammography 12 months after the program and showed

significant differences ($\chi^2=5.00$, $p<.05$). However, its effects on clinical breast examination and breast ultrasonography were not found at 6 and 12 months after the program (Table 4).

<Table 3> Homogeneity of the Two Groups in Variables

(N=51)

Variables	Range of score / Categories	Exp. (n=22)		Cont. (n=29)		Z/ χ^2
		Mean \pm SD	n (%)	Mean \pm SD	n (%)	
Knowledge	0-16	9.00	22(100)	9.68	29(100)	-1.06
Attitude	1-5	3.86	22(100)	3.83	29(100)	.24
Practices	BSE experience	Yes	5(22.7)	3(10.3)	29(100)	1.45
		No	17(77.3)	26(89.7)	29(100)	
	Mammography experience	Yes	8(36.3)	8(27.6)	29(100)	.45
		No	14(63.6)	21(72.4)	29(100)	
	CBE experience	Yes	4(18.2)	7(24.1)	29(100)	.26
		No	18(81.8)	22(75.9)	29(100)	
Breast sonography experience	Yes	1(4.5)	4(13.8)	29(100)	1.21	
	No	21(95.5)	25(86.2)	29(100)		

Exp.=experimental group; Cont.=control group; BSE=breast self-examination; CBE=clinical breast examination.

<Table 4> Comparisons in Knowledge About and Attitude Toward Breast Cancer and BSE and Early Screening Practice Between the Groups at Each Point of Time

(N=51)

Variables	Range of score / Categories	After program period	Exp. (n=22)		Cont. (n=29)		Z/ χ^2
			Mean \pm SD	n (%)	Mean \pm SD	n (%)	
Knowledge	0-16	3 months	13.22	22(100)	10.74	29(100)	5.02***
Attitude	1-5	3 months	4.21	22(100)	3.89	29(100)	3.43**
Practices	BSE	Have practice	6 months	10(45.5)	2(6.9)	29(100)	10.33**
		Haven't practice	6 months	12(54.5)	27(93.1)	29(100)	
		Have practice	12 months	17(77.3)	6(20.7)	29(100)	16.17***
		Haven't practice	12 months	5(22.7)	23(79.3)	29(100)	
	Mammography	Have undergone	6 months	0(0.0)	0(0.0)	29(100)	-
		Haven't undergone	6 months	22(100.0)	29(100.0)	29(100)	
		Have undergone	12 months	8(36.4)	3(10.3)	29(100)	5.00*
		Haven't undergone	12 months	14(63.6)	26(89.7)	29(100)	
	CBE	Have practice	6 months	0(0.0)	0(0.0)	29(100)	-
		Haven't practice	6 months	22(100.0)	29(100.0)	29(100)	
		Have practice	12 months	5(22.7)	2(6.9)	29(100)	2.64
		Haven't practice	12 months	17(77.3)	27(93.1)	29(100)	
Breast ultrasonography	Have undergone	6 months	0(0.0)	0(0.0)	29(100)	-	
	Haven't undergone	6 months	22(100.0)	29(100.0)	29(100)		
	Have undergone	12 months	5(22.7)	2(6.9)	29(100)	2.64	
	Haven't undergone	12 months	17(77.3)	27(93.1)	29(100)		

Exp.=experimental group; Cont.=control group; BSE=breast self-examination; CBE=clinical breast examination.

* $p<.05$; ** $p<.01$; *** $p<.001$.

Discussion

This study showed that an integrated breast health program increased knowledge and improved attitude regarding breast cancer. This result supports previous studies on knowledge increase, with the knowledge level of the experimental group in this study after program completion being slightly higher than reported studies using the same scale with nurses by Lee [18] (11.20 points) and Kim and Park [19] (11.36 points) twice that of undergraduate female students [21] (6.60 points). This may be related to high interest in the breasts and breastfeeding during pregnancy and after delivery. The effect of the program on knowledge was improved and maintained even after about three months, which may have contributed to the emphasis on the importance of breast cancer education during pregnancy.

Prior studies have noted that women who received advice from health care providers or physicians showed higher knowledge about the early screening of breast cancer than those who did not receive the same [22]. This further highlights the role of nurses, who can play a role in increasing breast cancer awareness, maximizing their excellent opportunity to see women during their pregnancy, and offer education and encouragement. Additionally, nurses can take an active role in asking women after discharge whether they received information about general breast care and health, whether they understood the information, or if they have any other questions. This may be included in the professional work that nurses undertake in home-health care for post-childbearing women.

Regarding attitude toward breast cancer, baseline scores in the experimental (3.86 points) and control groups (3.83 points) showed a relatively positive attitude, approximately 77% of the maximum 5 points. These levels are higher than those of prior studies using the same tool, such as Kim's study of healthy women (3.53 points) [20] as well as studies with registered nurses (3.64 points) [19]. This suggests that the program not only facilitated an opportune time during pregnancy to teach about and reinforce breast cancer prevention but also possibly influenced pregnant women to be more open with positive coping skills for breast cancer and health. Since women are the subjects of their bodies, it is necessary to manage breast health with the attitude that they should take care and manage by themselves when it is focused on the breast, even though not during pregnancy or breastfeeding, so the program of this study is thought to be applied appropriately.

Prior studies have shown that a positive attitude has an impact on screening behaviors. For example, those reporting to nurses with a positive attitude about breast cancer and BSE were more active in practicing breast health management [19,23]. Considering these results, a positive attitude about clinical experiences could facilitate breast care-seeking behavior. On the one hand, some studies reported that the most common barriers for women who never underwent screening were fear of results and no support from the surrounding environment [24]. Further, some women felt frustrated with their clinical experience because they felt they were not provided enough time or information to make informed decisions [25]. Therefore, further interventions that may shape a positive attitude and increase interest in breast cancer are needed to reinforce screening behaviors.

For early screening practices, the integrated breast health program was effective in improving BSE practice and mammography rates. The use of demonstrations and breast models in this intervention may also have added to heightening participants' interest in and comfort with BSE techniques. BSE may be an easy and feasible way to screen for abnormalities in these post-childbearing women, as hormonal influences at this time affect breast size and sensitivity, often making it difficult to conduct mammography or clinical breast examinations [26,27]. Therefore, education to recommend mammography should be included as a method to check the initial breast condition after breastfeeding and to conduct early screening after the age of 40 years.

Although BSE is not sufficient as the best early screening practice, it is second only to mammography in the number of articles that address women's knowledge, attitudes, and beliefs about breast cancer screening [25]. According to Rahman et al. [28], BSE allows women to direct their breast tissue for any physical or visual changes and can help screen for tumors, cysts, and other abnormalities in the breasts. Therefore, the recommended BSE for early detection of breast cancer assists women to become familiar with the appearance and sense of their breasts, and it helps them to detect any changes as soon as possible, especially for young women. Additionally, detecting breast cancer as early as possible is important to maximize the potential for good health outcomes, and nurses associated with breast health education should suggest that women can perform BSE regularly during pregnancy and postpartum periods when they become interested in breast health.

On the other hand, the integrated breast health program did not affect clinical breast examination and ultrasonography rates. It

seems that clinical breast examination and ultrasonography are used as additional testing tools for BSE and mammography as early breast screening practices. Ultrasonography is not selected as a priority early screening practice because of its high cost; however, it is necessary to educate them to understand and practice the need for ultrasonography along with clinical breast examination because of the characteristic dense breasts of Korean women.

Although it linked breastfeeding education with breast cancer awareness through the program, it did not differentiate teaching content according to the breastfeeding intentions of the participants, which may be an influential factor. However, these breast cancer risks can be ameliorated in women if they initiate breastfeeding [27], and these results suggest that the promotion of breastfeeding in women may be an effective tool for reducing the occurrence of breast cancer. Encouragement of breastfeeding among pregnant women offers an effective opportunity for intervention, given the combination of evidence for reduced breast cancer risk with breastfeeding.

Early screening practices aim to terminate the process of disease development before its full symptoms are diagnosed, which may impede or prevent the development of malignancy, and these are targeted at specified groups of the healthy population characterized by a greater risk [26]. Therefore, future breast health programs for pregnant women may warrant continuity and further tailoring, according to before and after delivery and breastfeeding intention. Supplementing more content on clinical breast examination and sonography for future interventions, such as adding video clips that illustrate the process of such procedures, may increase the success of the program. In this study, early screening practices were conducted after 12 months of the program, except BSE, which could be considered to affect the breastfeeding period. Consequently, the evaluation period of study effects can vary depending on the duration of breastfeeding, as the design is considered desirable.

Regular BSE reportedly leads to increased mammography and clinical breast examinations [26, 29]. According to Prusty et al. [30], a health education-based intervention resulted in positive changes in breast examination practices, improved BSE practices, and additional women underwent clinical breast examination after intervention. The value of BSE has been debated with regard to survival rates [3], leading to variations in clinical recommendations de-emphasizing BSE [6] and causing confusion for women. However, it is important to consider that BSE may still benefit

younger women who do not meet age-appropriate screening guidelines for breast cancer. It may increase awareness about and positive attitude toward regular mammography and clinical breast examination. Nurses caring for women, such as during pregnancy and post-delivery well-woman care, should maximize the window of opportunity to share and reinforce breast health knowledge and behaviors as a way to promote a holistic approach to women's health.

Considering that most previous studies evaluated BSE practice for breast screening behavior, with very few intervention studies examining mammography and clinical breast examination as early screening behavior, this study is meaningful as it included health care providers in breast health management, for example, through clinical breast examinations. Additionally, its focus on pregnant women in their 20's and 30's, an age when there is typically little attention to breast cancer, seems appropriate and fills a void. However, this study was limited by the small sample size, which limits the generalization of the study findings to a broader population. Second, the presence and duration of breastfeeding, which may affect early screening practices and breast care, could not be considered after the postpartum period. Lastly, despite considering a drop-out rate of 20%, experimental groups were sparse.

Conclusion

In conclusion, the breast health program for pregnant women integrating education on breastfeeding and breast cancer showed positive effects on breast cancer knowledge and attitude as well as some early screening practices at postpartum, such as BSE and mammography. To increase the tendency of early screening practices in young women through pregnancy as a window of opportunity, an integrated approach to address breast cancer and breastfeeding should be included as a standard part of antenatal and postpartum programs. Further, in planning such an education program, risk perception and information among women about breast cancer should be considered. Furthermore, it is recommended that nurses take initiatives in interventions to increase a woman's breast care abilities during the prenatal and postpartum periods, and even after discharge because breast health may be an equally important issue for women who do not undergo pregnancy.

Conflicts of Interest

The author declared no conflict of interest.

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Effect of an Integrated Breast Health Program for Pregnant Women on Knowledge, Attitude, and Early Screening Practice Related to Breast Cancer

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Purpose: Breast cancer is becoming increasingly prevalent among young Korean women. During pregnancy, women's concern regarding their breasts heightens. Thus, pregnancy provides a window of opportunity for breast cancer prevention and management along with antenatal care. This study developed and evaluated an integrated breast health program for pregnant women. **Methods:** This study employed a non-equivalent control group and non-synchronized design (22 experimental, 29 control). Women pregnant for over 28 weeks participated. The two-session integrated breast health program focused on breast management during breastfeeding and education about breast cancer prevention and early screening. **Results:** During the early postpartum period (within three months after the program), there were statistically significant differences in knowledge and attitude about breast cancer and breast self-examination before and after the program. There were also statistically significant differences in BSE at 6 and 12 months after the program and mammography at 12 months after the program. However, there were no statistically significant differences in clinical breast examination and breast ultrasonography at 6 and 12 months after the program. **Conclusion:** The integrated breast health management program was effective in increasing knowledge and improving attitudes regarding breast cancer, BSE, and early screening practices among pregnant women. Further studies should consider providing breast health programs differently for each phase of pregnancy and continuing the same after delivery.

Key words : Attitude; Breast neoplasms; Cancer screening; Knowledge; Pregnant women

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