

Original Article

Effects of Nursing Interventions Planned with the Health Promotion Models on the Breast and Cervical Cancer Early Detection Behaviors of the Women

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Abstract

Background: Breast cancer and cervical cancer are important community health problems and the chance of surviving increases when diagnosed early.

Objective: The study was conducted to ensure them to perform the breast and cervical cancer early detection behaviors of women over age 40.

Methods: Research sample was composed of 100 women, 50 of whom constituted the experiment group and 50 of whom constituted the control group. It is an quasi-experimental study. In the collection of the data, Information Forms related to the Socio-Demographical attributes and the Previous Behaviors, Health Belief Model Scale, Self-Efficacy Scale and the Healthy Lifestyle Behaviors Scale II-Health Responsibility Subscale were used.

Results: At the end of the nursing interventions performed by using the health promotion models, it was found that rates and perceptions of the women concerning the breast and cervical cancer early detection behaviors were higher in the experiment group when compared to the control group. Besides, a significant decrease was detected in the inhibiting factors perception of the experiment group.

Conclusions: Positive changes observed in the breast and cervical cancer early detection behaviors of the women as a result of the nursing interventions shows the efficiency of the nursing interventions based on the Health Belief Model and the Health Promotion Model. Spreading these interventions to the national level is of importance in maintaining the continuity of the positive changes.

Key Words: Health promotion models, Breast and cervical cancer, Nursing

Introduction

Breast cancer and cervical cancer are important community health problems and the chance of surviving increases when diagnosed early. Breast cancer which is seen 23 % among all woman cancers in the world has been reported to be 1.38 million in 2008 (IARC, 2010). It is the most common cancer type in Turkey and while its incident was 37.6 out of 100.000 in 2006, it rose to 41.6 in 2008 (Ministry of Health, 2010).

Cervical cancer consists of 12 % of the cancers seen in women. It has been reported that the number of new cervical cancer cases was 529.000 in 2008 and 90 % of them are in

developing countries (IARC, 2010). Cervical cancer is among the 10th most common cancer type in women in Turkey. Its incidence was 4.4 out of 100.000 in 2008 (Ministry of Health, 2010). The most effective method of protecting/promoting health and decreasing morbidity and mortality from breast cancer and cervical cancer are early diagnosis (Anderson et al., 2006; Kaiser Permanente Care Management Institute, 2006). However, studies regarding the early diagnosis behaviours of breast cancer and cervical cancer in women have shown that early diagnosis behaviours are not sufficient (Beydag & Karaoglan, 2007; Deveci et al., 2010; Jirojwong & MacLennan, 2003; Tuong, 2007;

O'Malley & Forrest 2002). Studies reveal that awareness regarding breast cancer and cervical cancer early diagnosis behaviours should be raised and nursing interventions supported by models should be structured and implemented for these behaviours to be regular (Oliver-Vazquez, 2002). Moreover, it has been stated that training is not influential on its own in displaying early diagnosis behaviours and more than one incentive (reminding via telephone calls and letters, sending e-mails, sending written invitations, home visits) is influential rather than personal strategies (Austin et al., 2002).

Theoretical framework of the study

There are a lot of models which are used in bringing early diagnosis behaviours (Glanz, 2008). The Health Belief Model (HBM) and the Health Promotion Model (HPM) have constituted the theoretical framework of this study. Of these models, Health Belief Model (HBM) is the most frequently used model for constructing the conceptual framework of health behaviour and increasing breast cancer and cervical cancer early diagnosis behaviour (Champion & Skinner, 2008; Pender, 2006) (Figure 1). HPM leads the way to practices for promoting health and aims to be the complementary of health promotion models. It has been stated in HPM that previous behaviours and health responsibility are influential in individual's behaviour (Ersin & Bahar, 2011) (Figure 1).

Community health nurses, who are health professionals, are the key workers in promoting positive health behaviours (Ersin & Bahar, 2011). Thus, determining factors affecting women's early diagnosis behaviours, planning and applying nursing interventions supported by models for these factors will contribute to promote breast cancer and cervical cancer early diagnosis behaviours of women.

This study has been carried out in order to promote women's breast cancer and cervical cancer early diagnosis behaviours (Self breast examination, clinical breast examination, mammography, Pap smear test) through nursing interventions which have been planned by basing HBM and HPM.

Methods

Research Type

The research is experimental type and has been carried out in 11 neighbourhoods of Narlıdere district in İzmir between the years 2009-2012.

Sample and Population

100 women who have accepted to participate in have formed the sample of the study (50 of whom have formed the experimental group and 50 of whom have formed the control group). The women have been randomly placed in the groups by using numbers table. As for the study's strength, the women's having SBE, CBE and mammography have been used as result variables. After the study has been completed, NQuerty and G-power 3 program have been used for influence quantity. The statistical strength of the study is .99 ($\alpha=.05$, Influence quantity = .48, Odds Ratio = .03, Confidence interval .95, $n_1=50$, $n_2=50$) (Fleiss et al., 1980; Machin & Campbell, 1987). In order to examine the presence of difference in terms of socio-demographic characteristics of the participants in the groups, homogeneity test has been done. As a result of the analysis, the difference among the groups have been found out to be statistically meaningless ($p>0.05$) (Table 1).

Exclusion criterion

Women under 40 years old who have a bulk in their breasts, who have been diagnosed with cervical cancer or breast cancer, who have regular SBE, or who have Pap test, mammography and CBE within the previous year and who had hysterectomy operation have been excluded from the study.

Data collection instruments

The Socio-demographic Characteristics Information Form, the adapted versions of Health Belief Model Scale, Attitude Scale regarding the Early Diagnosis of Cervical Cancer, Self-efficacy Scale, Healthy Life Style Behaviours Scale Health Responsibility Sub-scale and Information Form related to Previous Behaviours consisting of four questions which has been prepared by the researchers by consulting Nola Pender have been used to collect data.

Data Collection

Data has been collected by face to face interview method and all the data collection instruments have been completed by women both in the pre-test and post-test.

Interventions

The training which has been planned by basing the results of focus group interviews and SIM-SGM lasted for 8 weeks. The average duration of the trainings were 65 minutes and carried out

individually in the participants' houses. After the training, the women have been asked to show what they have learned on small rough models and handed out brochures (about breast cancer and cervical cancer). The women have been telephoned monthly and reminded of early diagnosis behaviours and have been made to use reminder cards prepared together. The control group has not applied anything and after the training, they have been trained and handed out brochures.

Data Analysis

The data has been evaluated by SPSS 15.0 computer program. In analysing the data, the significance test of the difference between two averages, the significance test of the difference between two groups, chi square test and McNemar test have been used.

Research Ethics

To be able to carry out the research, permissions of Narlıdere Municipality, Tulay Aktas Breast Centre and Dokuz Eylül University Nursing School Ethics Committee have been obtained. Furthermore, approval of the participants has been obtained by informing the participants. After the study, brochures have been handed out to the control group and health training has been given. The women who have not participated in the health trainings have been handed out brochures.

Results

Women's Perceptions regarding the Early Diagnosis of Breast Cancer and Cervical Cancer

Breast cancer sensitivity perceptions, seriousness perceptions, health motivation perceptions, SBE benefit perceptions, CBE barrier perceptions, SBE self-efficacy, mammography benefit and barrier perceptions score averages in the experimental group have been found out to be higher in post nursing interventions than pre-nursing interventions. The difference is statistically meaningful ($p < 0.05$) (Table 2).

Breast cancer sensitivity perceptions, seriousness perceptions, health motivation perceptions, SBE benefit perceptions SBE barrier perceptions, SBE self-efficacy, mammography benefit and barrier

perceptions score averages in the control group have been found out to be lower in post nursing interventions when compared to pre-nursing interventions and the difference is not meaningful ($p > 0.05$) (Table 2).

In the experimental group, a meaningful difference in cervical cancer sensitivity and seriousness perceptions, Pap smear test barrier and benefit perceptions score averages have been found out to be statistically meaningful in post nursing interventions ($p < 0.05$).

In the control group, a statistically meaningful difference in cervical cancer perceptions and Pap smear test barrier and benefit score averages have not been found out, yet a meaningful difference has been found out in sensitivity perceptions in post nursing interventions ($p < 0.05$) (Table 3).

In the experimental group, pre nursing interventions self-efficacy scale score average has increased when compared to post nursing interventions. The difference has been found out to be statistically meaningful ($p < 0.05$). In the control group, pre nursing interventions self-efficacy scale score average has decreased in post nursing interventions and the difference is statistically meaningful ($p < 0.05$) (Table 4).

Women's Behaviours regarding the early diagnosis of Breast Cancer and Cervical Cancer

Having SBE states of the experimental group and control group in post nursing interventions can be seen in Table 5. 84 % of the women in the experimental group have regular SBE, 22 % of them have CBE, 34 % of them have mammography and 38 % of them have Pap smear test. 12 % of the women in the control group have regular SBE, 4% of them have CBE, and 6 % of them have mammography. When the experimental group and the control group are compared, a meaningful difference has been found out in the behaviours of having SBE, CBE and mammography ($p < 0.05$).

It has been stated that 64.3 % of the women who have SBE, 36.4 % of the women who have CBE, 94.1 % of the women who have mammography and 73.7 % of the women who have Pap smear have experienced this behaviour in a time before a year.

Table 1 The distribution of the participants in accordance with their socio-demographic characteristics

Socio Demographic Characteristics	Experimental Group		Control Group		Total		X ²	p
	n	%	n	%	n	%		
Age								
40-49 age								
50-59 age	20	40,0	17	34,0	37	37,0		
Under age 60	11	22,0	15	30,0	26	26,0	.886	.642
	19	38,0	18	36,0	37	37,0		
Education Status								
Illiterate	12	24,0	12	24,0	24	24,0		
Literate	2	4,0	4	8,0	6	6,0		
Primary School	20	40,0	19	38,0	39	39,0	.769	.979
Graduate			4	8,0	8	8,0		
Secondary School	4	8,0						
Graduate								
High school graduate	6	12,0	7	14,0	13	13,0		
Graduate	5	10,0	5	10,0	10	10,0		
Marital Status								
Married	46	92,0	48	96,0	94	94,0678*
Unmarried	4	8,0	2	4,0	6	6,0		
Health Insurance								
Have Health Insurance	48	96,0	46	92,0	94	94,0678*
Not Health Insurance	2	4,0	4	8,0	6	6,0		
Total	50	100	50	100	50	100		

Table 2 The comparison of pre and post nursing interventions health belief model scale sub-dimensions score averages of the control group and the experimental group

Group	Pre-test		Post-test		t	p
	Perceived Susceptibility		Perceived Susceptibility			
	X±SD		X±SD			
Experimental	7.44±3.69		8.92±3.68		-2.671	.010
Control	6.74±3.25		6.70±3.51		.078	.938
	t= -1.007	p=	t= -3.086	p= .003		
	.316					
Perceived Severity						
Experimental	19.26±6.68		20.66±7.28		-3.667	.000
Control	20.50±6.55		19.60±6.81		1,062	.293
	t= .938	p= .351	t= -.752	p= .454		
Perceived Health Motivation						
Experimental	20.44±3.20		22.92±2.20		-5.465	.000
Control	20.26±2.88		20.26±3.22		.000	1,000
	t= -.295	p=	t= -4.823	p= .000		
	.768					
Perceived Benefit of SBE						
Experimental	14.60±3.72		19.60±1.16		-45.891	.000
Control	14.42±4.12		14.88±3.25		-1.110	.272
	t= -.229	p=	t= -9.674	p=.000		
	.819					
Perceived Barrier of SBE						
Experiment	21.96±6.38		11.00±3.04		-8.489	.000
Control	20.94±5.96		20.62±5.72		.349	.728
	t= -.826	p= .411	t= 10.502	p=.000		
Perceived Self-Efficacy of SBE						
Experimental	27.46±9.10		48.38±3.20		-14.715	.000
Control	25.64±11.71		26.16±9.79		-.445	.658
	t= -.868	p=	t= -15.242	p= .000		
	.388					
Perceived Benefit of Mammography						
Experimental	19.34±3.50		23.66±1.87		-7.101	.000
Control	19.16±4.09		19.16±4.33		.000	1,000
	t= -.237	p=	t= -6.747	p= .000		
	.813					
Perceived Barrier of Mammography						
Experimental	30.84±7.83		28.98±8.09		8.441	.000
Control	28.36±7.38		20.58±6.72		-.884	.381
	t= -1.630	p=	t= 5.649	p= .000		
	.106					

Table 3 The comparison of attitude scale sub-dimensions score averages of the control group and the experimental group regarding the early diagnosis of cervical cancer

Group	Pre-test	Post-test		t	p
	Perceived Susceptibility X±SD	X±SD			
Experimental	26.14±4.86	31.56±4.63		-7.149	.000
Control	26.68±5.81	24.50±6.16		3.033	.004
	t=.504	p=.615	t= -6.479	p= .000	
	Perceived Severity				
Experimental	29.38±5.91	30.84±4.20		-4.249	.000
Control	28.78±5.73	29.14±5.75		-.565	.575
	t= -.516	p=.607	t= -1.688	p= .095	
	Perceived Barrier				
Experimental	22.56±3.64	21.92±3.49		4.939	.000
Control	22.52±3.39	22.08±3.19		.861	.394
	t= -.057	p=.955	t= .239	p= .811	
	Perceived Benefit				
Experimental	21.92±3.85	27.32±2.61		-10.146	.000
Control	21.32±4.17	21.20±4.43		-.025	.980
	t= -.747	p= .457	t= -8.412	p= .000	

Table 4 The comparison of pre and post nursing interventions self-efficacy scale score averages of the experimental group and the control group

Group	Pre-test	Post-test		t	p
	X±SD	X±SD			
Experimental	2.76±12.22	14.96±6.75		-6.908	.000
Control	2.64±12.10	-2.20±11.20		3.373	.001
	t= -.049	p= .961	t= -9.276	p= .000	

Table 5 States of self-breast examination, clinical breast examination, having mammography, having Pap smear test in the experimental group and the control group after nursing interventions

Breast Self Examination Performance	Experiment Group (n=50)		Control Group (n=50)		X ²	P*
	n	%	n	%		
Yes	42	84	6	12	49.079	.000
No	8	12	44	88		
Clinic Breast Examination Receive						
Yes	11	22.0	2	4.0	5.559	.017
No	39	78.0	48	96.0		
Mamography Receive						
Yes	17	34.0	3	6.0	10.563	.001
No	33	66.0	47	94.0		
Pap Smear Test						
Yes	19	38.0	---	---		
No	31	62.0	50	100		
Total	50	100	50	100		

*Yates correction (Contunity Correction) has been used.

Table 6 The comparison of pre and post nursing interventions healthy lifestyle behaviours scale health responsibility sub-dimension score averages of the control group and the experimental group

Grup	Pretest		Posttest		t	p
	X±SE		X±SE			
Experiment	16.82±3.72		20.38±3.28		-10.035	.000
Control	16.54±3.41		15.90±3.81		1.259	.214
	t= -.392	p= .696	t= -6.302	p= .000		

A meaningful difference between women's having SBE, CBE, mammographic and Pap smear test behaviours and previous behaviours has been found out ($p < 0.05$) (Table 5).

Women's Health Responsibility Perceptions

When the experimental group and control group are compared, there has been an increase in healthy lifestyle behaviours scale health responsibility sub-dimension score average in the experimental group with regard to post nursing interventions and the difference between them has been found out to be meaningful ($p < 0.05$). A statistically meaningful difference has not been found out in healthy lifestyle behaviours scale health responsibility sub-dimension score average in the control group ($p > 0.05$) (Table 6).

Discussion

Women's Perceptions regarding Breast and Cervical Cancer Early Diagnosis

In this study, a meaningful difference has been found out in score averages of the women in the experimental group when compared to the control group in terms of post nursing interventions breast cancer sensitivity perceptions (Champion et al., 2000; Rao et al., 2005; Tuong, 2007), seriousness perceptions (Chuntharapat et al., 2005; Tuong, 2007), health motivation perceptions (Chuntharapat et al., 2005; Merey, 2002), SBE benefit and barrier perceptions (Fernandez et al., 2009; Paskett et al., 2006), SBE self-efficacy perceptions, ²⁴ mammography benefit and barrier perceptions (Champion et al., 2000; Deavenport, 2011; Tuong, 2007)

Unlike this study, Daavenport et.al (2011), Garza et.al (2005) have stated that there is not a statistically meaningful difference between the control group and the experimental group in terms of breast cancer sensitivity perceptions after the training. In the study of Avci et. al. (2007) sensitivity perceptions in women have been found out to be low after the training when compared to pre-training and the difference has not been found out to be statistically meaningful. Besides, in the study carried out on Spanish women by Daavenport et. al (2011), a meaningful difference has not been found out in breast cancer seriousness perceptions between the post intervention control group and experimental group. In her study, Secginli (2007) has stated that breast health promotion program has no effect on women's health motivation perceptions.

Similarly, in Aydın's study (2004), the fact that program has no contribution to health motivation has been explained through the fact that women's pre-program health motivation perceptions is high. In the study carried out by Avci et. al (2007) an increase in post-training SBE barrier perceptions compared to pre-training has been determined and the difference between them has been found out to be statistically meaningless. In the same study, it has been revealed that the ones who know how to have SBE after the training perceive self-efficacy higher than the ones who do not know how to. However, a meaningful difference between them has not been found out (Avci 2007). In the study of Garza et.al (2005), a meaningful difference in women's mammography barrier perceptions after the training has been found out but no change has been found out in mammography benefit perceptions.

According to SIM, the importance of expected health behaviours and seriousness perceptions are stressed but in many societies the fact that cancer is known and perceived to be a serious illness might have limited the effect of seriousness perceptions in the individual's behaviours regarding breast cancer. In some cases, individuals might be more sensitive to certain illnesses and their seriousness perceptions is higher since they are aware of the vital risks of these illnesses. Moreover, if women comprehend the benefits of early diagnosis behaviours and encounter with less barriers, it is expected that positive health behaviours will increase. Also, it is thought that if women are taught SBE and detect bulks on small rough models via nursing interventions, it will contribute to the development of their SBE self-efficacy perceptions.

In this study, when Early Diagnosis of Cervical Cancer Attitude Scale Sub-dimensions' sensitivity perceptions score averages, benefit perceptions score averages, self-efficacy perceptions score averages of the women in the control group are compared to the experimental group, a meaningful difference has been found out. A meaningful difference has not been found out in seriousness perceptions score averages and barrier perceptions score averages.

The number of studies regarding women's beliefs of cervical cancer and Pap smear test is limited in literature. In his study McFarland (2003), who has examined women's information and

perceptions regarding Pap smear test and cervical cancer, has stated that most of the participants' sensitivity perceptions of cervical cancer is high. Jirogwong (2001), has stated that women whose cervical cancer sensitivity perceptions and seriousness perceptions are high have higher rates of having Pap smear test but the difference between is not meaningful.

McFarland (1999), has stated that there is not a meaningful difference between the rates of perceived sensitivity and having Pap smear test in low income women and high income women. In another study, women's seriousness perceptions regarding cervical cancer has been reported to be high (McFarland, 2003). In this study, the fact that there is not a meaningful difference between the control group and experimental group in terms of women's post nursing interventions cervical cancer seriousness perceptions is thought to stem from the fact that they do not consider cancer as a serious illness and from their fatalistic approaches.

In the studies, it has been found out that benefit perceptions' being high and barrier perceptions' being low are influential variables in women's having Pap smear test (Lee et al., 2008; Tung et al., 2008). Jirogwong et.al (2001), have stated that women whose Pap smear test benefit perceptions are high have higher rates of having Pap smear test but the difference between is not meaningful. Besides, women whose Pap smear barrier perceptions are low have the test in a 0.1 higher rate and a meaningful difference has been found out among the groups. In the study of Paskett et. al. (1999) a meaningful post intervention difference has not been found out regarding their positive beliefs and information regarding Pap smear test. Agurto et. al. (2004), have stated that women feel better if the result of Pap smear test is negative. MacFarland (2003), has stated that women's benefit perceptions regarding Pap smear test is high. He has stated that the reason why women do not have Pap smear test is lack of information. In this study, the fact that there is not a meaningful difference between the post nursing interventions experimental group and control group may have stemmed from the women's cultural background. Similar to this study, Tung et. al. (2008) has determined that having a high self-efficacy perceptions is influential in women's having Pap smear test. In another study carried out by Taiwanese women, it has been found out that the rate of having Pap smear test is 2.5 higher in

women with high self- efficacy when compared to women with low self-efficacy (Jirogwong et.al. 2001).

Women's Behaviours Regarding the Early diagnosis of Breast Cancer and Cervical Cancer

In this study, the rate of having SBE in the experimental group after the nursing interventions is 84 % while this rate is 12 % in the control group. Similarly in the literature, it can be seen that high sensitivity perceptions (Jirogwong & MacLennan, 2003), health motivation (Champion and Scott, 1997; Chuntharapat, 2005), self-efficacy perceptions (Tuong, 2007), and SBE benefit perceptions and low SBE barrier perceptions (Tuong, 2007), increase the behaviour of having SBE. In the studies carried out by using Health Belief Model it has been determined that after individuals are informed about the issue, they develop positive health behaviours (Oliver-Vazquez, 2002; Pender, 2006; Nahcivan & Secginli, 2007) and apply to early diagnosis behaviours (SBE, CBE and mammography) (Anderson et al., 2006; Beydag, 2007; Champion et al., 2000; Tuong, 2007).

Similar to the other studies, the rate of having CBE after the nursing interventions in the experimental group is high (Champion et al., 2000; Constanza et al., 2000; Tuong, 2007). Furthermore, the increase in having mammography behaviour after the nursing interventions resembles to other studies (Champion & Scott 1997; Mickey et al., 1995). Unlike this study, it has been stated in some studies that sensitivity perceptions are not influential in having mammography (Russel, 2006) and training does not bring about behaviour change (Constanza et al., 2000; Tuong, 2007). As it has been stated in the SIM as well, it has been stated in some studies that high health motivation perceptions (Nahcivan & Secginli, 2007), self-efficacy perceptions (Champion, 2005; Fernandez et al., 2009), benefit perceptions, and low barrier perceptions increase the rate of having mammography. However, Russell et.al (2006) have determined that benefit perceptions are not important in having regular mammography but low barrier perceptions increase the rate of having mammography.

Similar to other studies, the frequency of having Pap smear test after the nursing interventions is higher when compared to the control group

(Arevian et al., 2006; Lantz et al., 1995) It is thought in this study that women's having high cervical cancer sensitivity and benefit perceptions and low barrier perceptions affect the behaviour of having Papa smear test positively.

According to Health Belief Model, it is important that the trainings are supported by reminders (Bonfil et al., 2009; Oliver-Vazquez et al., 2002). Similar to other studies, in this study it has been revealed that handing out brochures, reminding via telephone calls and using reminder cards after the training are influential in developing behaviour (Arevian et al., 2006; Bonfil et al., 2009; Lantz et al., 1995)

Moreover, it has been found out that having SBE, CBE, mammography and Pap smear in a time before a year affect the post nursing interventions in a meaningful way. 75 % of the studies carried out by using state that previous behaviours are influential in women's behaviours developed later (Pender, 2006). Previous behaviours prepare the individual for the new behaviour and contribute to the formation of habit (Pender, 2006). This result might have stemmed from women's previous positive experience and low barrier perceptions.

Women's Health Responsibility Perceptions

In this study, a meaningful difference has been determined in women's Health Lifestyle Behaviours Scale Health Responsibility sub-dimension score averages in the experimental group and the control group. In the literature, mostly SIM has been used in the studies regarding breast and cervical cancer early diagnosis behaviours and the number of studies carried out by using Health Promotion Model is limited (Johnson, 1998; Taylor, 1998). The fact that individual responsibility is high in women increases their motivation and thus affects screening behaviours. The fact that there is a difference in the control group and the experimental group in post nursing interventions health responsibility, which means individual's taking her/his own health responsibility and consulting a professional when necessary, might have stemmed from the fact that health perceptions of the women in the control group is high and have not used health services without any symptom.

Result and Suggestions

It has been found out in this study that that there has been an increase in women's perceptions

scores averages regarding the early diagnosis of breast and cervical cancer and showing behaviour rates after the nursing interventions.

In accordance with the obtained results;

When the fact that nursing interventions increase awareness and affect perceptions positively in women is considered, it can be suggested that nursing interventions should be nationally and regionally generalised and ensured their continuity.

When the fact that using more than one reminder increases women's early diagnosis behaviour is considered, it can be suggested that more reminders (e-mail reminder, informative letters, etc.) should be combined and used and community health nurses should play an active role in providing these services.

Suggestions to Researchers

It may be suggested that randomised controlled studies showing the effectiveness of interventions and comparing the concepts of HBM and MPM before and after the intervention should be carried out. It may be suggested that studies where HBM is used in developing breast and cervical cancer early diagnosis behaviours in women and which include larger samples and longer observation hours might be planned.

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