

# THE HEALTH BELIEFS RELATING TO MAMMOGRAPHY OF MIDWIVES AND NURSES

**İlknur Aydın Avcı**

*Ondokuz Mayıs Üniversitesi, Halk Sağlığı, Samsun, Türkiye*

This study describes the beliefs that are held by a group of 35 years and older/over women with regard to mammography utilization, as one type of breast cancer screening.

The study utilized a descriptive exploratory design with a precoded self-administered questionnaire.

This study was conducted in two hospitals in Ordu, Turkey. In those hospitals, there were total 72 nurses and 19 midwives at 35 years and older/over and 5 nurses and 2 midwives could not participate as they were not available because of health problems. Therefore, the sample consisted of 17 midwives and 67 nurses ages 35 years and older/over. The Data was collected between January 1<sup>st</sup> and March 15<sup>th</sup> 2005. Questionnaire was developed by researcher and consisted of questions about demographic characteristics, knowledge of mammography, having a previous mammogram, and family history of breast cancer. This study utilized a part of the Champion's revised Health Belief Model Scale. Mean, percent, cronbach alpha, t-test, and mann-whitney U test were used to analyze the data.

79.8% (n=67) of participants were nurses and 20.2% (n=17) were midwives. At the end of the study it has been shown that the nurses perceive the benefits of mammography more than midwives. In the study, it has been found out that those who don't having a previous mammogram perceive the barriers of mammography higher than the others. These results can be considered highly important as the nurses working in public health can effectively guide to the women for the early diagnosis and treatment of breast cancer.

**B**reast cancer has been seen most frequently among women. However, if breast cancer is determined by early detection, it can be concluded with recovery approximately 90% (1). Among Turkish women, breast cancer represents 24.1% of all cancers seen in women and is the second leading cause of cancer-related deaths. About 2390 new cases of breast cancer were diagnosed in 1999 in Turkey (2). Increased mammography use has contributed to encouraging decrease in breast cancer mortality. The decline in breast cancer mortality has been largely attributed to regular mammography screening practice Although this trend is encouraging, static's for overall breast cancer mortality are still problematic. Mammography screening can lower the mortality risk but it is still under-used among minorities. The rate of under-

## EBE VE HEMŞİRELERİN MAMOGRAFI İLE İLGİLİ SAĞLIK İNANÇLARI

### ÖZET

Bu araştırma, meme kanseri taramalarının bir türü olan mamografi hakkında 35 yaş ve üzeri kadınların sağlık inançlarını tanımlamak amacıyla yapılmıştır.

Araştırma Ordu ilindeki iki hastanede gerçekleştirilmiştir. Araştırmaya bu iki hastanede çalışan 35 yaş ve üzeri tüm ebe ve hemşirelerin alınması planlanmıştır. Hastanelerde 35 yaş ve üzeri 72 hemşire ve 19 ebe bulunmakta olup, 5 hemşire ve 2 ebe araştırma süresince raporlu olduklarından araştırmaya katılmamışlardır. Sonuçta 67 hemşire ve 17 ebe araştırma kapsamına alınmıştır. Veriler 1 Ocak- 15 Mart 2005 tarihleri arasında toplanmıştır. Verilerin toplanmasında Champion'un Meme Kanseri Taramalarında Sağlık İnanç Ölçeği ile araştırmacılar tarafından geliştirilen anket formu kullanılmıştır. Verilerin değerlendirilmesinde ortalama, %, t testi, Cronbach alpha ve Mann-Whitney U testleri kullanılmıştır.

Katılımcıların %79.8'i hemşire ve %20.2'si ebedir. Araştırmanın sonucunda hemşirelerin mamografinin yararlarını ebelerden daha yüksek algıladıkları bulunmuştur. Çalışmada, mamografi yaptırmayanların, yaptıranlara göre mamografinin engellerini daha yüksek algıladıkları saptanmıştır. Bu sonuçlar halk sağlığı alanında çalışan ebe ve hemşirelerin meme kanserinin erken tanı ve tedavisi için kadınlara rehberlik etmede etkin olmaları açısından önemlidir.

going a recommended mammography practice was 40.86 % in Aydın's study performed in Ordu (3). The rate of mammography performed in İstanbul was 12.6 % in Secginli's study (4).

Because of mammography has been shown to decrease breast cancer mortality by 25%-35% in women age 50 and over when consistently used, it is extremely important to maintain screening in this age group (5).

This study describes the beliefs that are held by a group of 35 years and older/over women with regard to mammography utilization, as one type of breast cancer screening.

The Health Belief Model (HBM) is the conceptual framework for this study. The HBM was developed in the early 1950s by Rosenstock, Hochbaum, and Kegeles to provide a framework for understanding why some people take specific actions to avoid illness, whereas others fail to protect themselves. The HBM is beneficial in assessing health protection or disease prevention behaviors. It also useful in organizing information about client views of their state of health and what factors may influence them to change their behavior (6-8).

According to the HBM, a woman who perceives that she is susceptible to breast cancer and that breast cancer is a serious disease would be more likely to perform regular breast examinations and breast cancer screening. Similarly, a woman who perceives more benefits from and fewer barriers to BSE would be more likely to practice BSE. A woman who has an internal cue (body perception) or who has been exposed to an external cue (e.g., the positive influence of a health care provider or the media) would also more readily adopt BSE, as would a woman who wants to improve her health and who is confident of positive results (9).

From this model two constructs, perceived benefits and barriers, have been found predictive for mammography. According to the HBM, the benefits construct is behavior specific and relates to perceived positive features of the behavior. The barriers construct relates to the negative aspects of behavior (mammography). The model hypothesizes that persons who perceive more positive benefits for mammography and fewer negative features of the behavior will be more likely to utilize mammography. In addition, a motivated woman is concerned about her health and well-being is more likely to be in favor of mammography utilization in the future and on a regular basic (9-11).

The HBM was utilized by several researchers to study women's beliefs of and practices in relation to the methods for breast cancer (10-19).

Champion (1995) conducted a study on 581 women ages 35 years and older/over for purpose to refine scales to measure Health Belief model concepts of benefits and barriers using the context of mammography screening. Cronbach alpha reliability coefficients for the benefits scale were 0.79 and for the barriers scale was 0.73.

Petro-Nustas (2001) conducted a study on 59 Jordanian women ages 18 to 45 years old for the purpose of assessing health beliefs about mammography. The overall results revealed favorable beliefs toward the use of mammography, coupled with the majority of women (76%) voicing their agreement with the overall benefits of mammography, and 24% were either not in agreement with or unsure about these benefits.

Holm, Frank and Curtin (1999) used the HBM in their study concerning the women's mammography behavior, health locus of

control, and health beliefs. The study used a convenience sample of 25 African Americans and 72 white women ages 35 to 84. Findings showed that women who participated in mammography screening were significantly more likely to perceive greater benefits, greater health motivation, and fewer barriers to screening than those who did not participate.

Champion et al (2003) used the HBM in their study as conceptual framework. This study was conducted on 773 women ages 50 to 85. Tailored interventions were effective at increasing mammography adherence. The result of this study showed that women not thinking about getting a mammogram were most likely to benefit from these tailored interventions while other women might need less intensive interventions.

Gozum and Aydin (2004) found alphas of mammography beliefs as .80 for benefits and .81 for barriers. The sample of this study were collected from 266 female primary schoolteachers.

Yabroff and Mandelblatt (2001) (20), in their study, have searched the influence of using mammography of different educational approaches, have found out that the education performed using a model (health belief model) has a big effect in using mammography and also increases the use of mammography.

### Research question

- How do the beliefs about mammography of 35 years and older/over nurse and midwifery?

### Aim

This study describes the beliefs of 35 years and older/over nurse and midwifery with regard to mammography utilization, as one type of breast cancer screening.

### Methods

#### Design

The study utilized a descriptive exploratory design with a precoded self-administered questionnaire.

#### Sample and setting

This study was conducted in two hospitals in Ordu, Turkey. In those hospitals, there were total 72 nurses and 19 midwives at 35 years and older/over, and 5 nurses and 2 midwives could not participate as they were not available because of health problems. Therefore, the sample consisted of 17 midwives and 67 nurses ages 35 and over (91.32% of sample). The Data was collected in face-to-face interviews between January 1st and March 15th 2005. The aim of the research was explained to nurses and midwives. All of them accepted to participate in the study voluntarily. The study was ethically approved by the Ordu Province Health Directorate.

Table 1. Means(M), Standart deviations (SD), and Cronbach alphas ( $\alpha$ ) for the Health Belief Model Subscales.

Scale	Min-max value	M	SD	$\alpha$	N	Number of Items
Susceptibility	3-15	7.51	3.00	0.70	84	3
Seriousness	6-30	21.00	6.31	0.80	84	6
Health motivation	5-25	24.41	4.40	0.73	84	5
Benefits	5-25	19.44	3.99	0.49	84	5
Barriers	11-55	20.64	6.04	0.63	84	11

#### Instrument

Questionnaire was developed by researcher and consisted of questions about demographic characteristics, knowledge of mammography, having a previous mammogram, and family history of breast cancer. Furthermore, this study utilized a part of the Champion's revised Health Belief Model Scale (HBMS; 8-10). Permission was obtained from Champion to utilize the tool. The detailed description of tool and its process of translation and testing can be found in the author's other work entitled "Validity of Turkish Adaptation of Champion Health Belief Scale" (18).

In this study, five subscales of Champion's HBMS were used, which are the perceived susceptibility (3 items), perceived seriousness (6 items), perceived benefits (5 items), perceived barriers (11 items), and health motivation (5 items). The reliability of these subscales (as utilized in this study) ranged from 0.49 to 0.80 and is shown in Table 1. All items in the five subscales were scored on a Likert scale from 1 (strongly disagree) to 5 (strongly agree).

#### Variables

Age, level of education, marital status, knowledge of mammography, having a previous mammogram, and family history of breast cancer were independent variables of the research. Health beliefs of mammography were dependent variable of the research.

#### Statics evaluation

The Statistical Package for The Social Sciences (SPSS for Windows) was used to analyze the data. Mean, percent, cronbach alpha, t-test, and Mann Whitney U test were used to analyze the data.

## Findings

#### Demographics

The sample population of women in this study (n=84) ranged from 35 to 53 years of age (m=40.38, SD=4.18). Most of the samples (71.4%, n=60) had up to an university degree of two years, and 28.6% (n=24) had a high school degree. Six percent (n=5) were single women and 94% (n= 79) were married. 79.8% (n= 67) of participants were nurses and 20.2% (n=17) were midwives. All of participants have a social assurance. Only 10.9% (n=9) of sample stated that they had a family history of breast cancer that affected of their aunt, in particular. But none of them had history about breast problems.

#### Practice

41.7% (n=35) of the participants had previously a mammogram. But 58.3% (n=49) of them didn't having a previous mammogram. The majority of participants (95.2%, n=80) reported that mammography was required for early detection and prevention of breast cancer.

#### Nurses' and midwives' health beliefs

Table 1 shows the reliability measures for HBM subscales. The Cronbach alpha coefficient measures were found sufficient, according to Aksakoglu (2001) (21), as follows: susceptibility,  $\alpha$ =. 70; seriousness,  $\alpha$ =.80; health motivation, .73; benefits, .49; barriers; .63.

According to mean of item point, it had seemed that participants' perceived susceptibility was middle level. Perceived seriousness of participants was high. This condition had been seemed that levels of seriousness intended for breast cancer was high. According to mean of item point, health motivation of participants was high. At the table 1, it was determined that participants had perceived benefits as high-level but they had perceived barriers as low-level.

At the end of this study, It was found that participant' ages were effected on all subscales of health belief scales (respectively perceived susceptibility, t=58.558; perceived seriousness, t=23.160; health motivation, t=27.665; perceived benefits, t=37.329; perceived barriers, t=24.149, p=.000). Midwives and nurses were compared with health belief scales and it was found that nurses' perceived benefits of mammography was higher than midwives' (mwu=383.000, p<0.05). It was found that midwives and nurses graduated high school had higher perceived benefits (mwu=518.000, p<0.05) and health motivation (mwu=504.500, p<0.05) than graduated university. Single midwives and nurses had high health motivation than married ones (mwu=86.500, p<0.05). Family histories of breast cancer of participants effected their's health beliefs (p>0.05). It was found that perceived barriers relating to mammography of midwives and nurses who have not had any mammogram were higher than the others with a previous mammogram (t=-2.356, p<0.05) (Table 2).

## Discussion

Health beliefs toward mammography of participants in this study were found as favourable. The substances at seriously accepted

Table 2. Comparison of demographic features and have a mamogram with health beliefs

	<b>Susceptibility</b> $\bar{x}\pm SD$	<b>Seriousness</b> $\bar{x}\pm SD$	<b>Health Motivation</b> $\bar{x}\pm SD$	<b>Benefits</b> $\bar{x}\pm SD$	<b>Barriers</b> $\bar{x}\pm SD$
<b>Position at workplace</b>					
Nurse	7.32±2.94	21.17±6.23	24.70±4.26	19.93±3.83	20.46±5.88
Midwifery	8.29±3.22	20.29±6.76	23.24±4.89	17.47±4.11	21.35±6.82
<i>mwu</i>	510.500	547.000	469.500	<b>383.000*</b>	556.000
<b>Education level</b>					
High school	6.63±2.58	20.67±7.15	26.08±3.89	20.96±3.56	22.21±7.37
University	7.89±3.12	21.09±6.05	23.74±4.48	18.75±3.97	20.05±5.43
<i>mwu</i>	564.000	723.500	<b>504.500*</b>	<b>518.000*</b>	641.000
<b>Marital status</b>					
Single	6.60±1.52	20.00±4.30	27.80±2.05	22.20±3.56	20.00±3.81
Married	7.57±3.07	21.06±6.42	24.19±4.43	19.27±3.97	20.68±6.17
<i>mwu</i>	164.000	162.500	<b>86.500*</b>	121.000	199.500
<b>Family history of breast cancer</b>					
Yes	7.30±2.92	21.16±5.96	24.54±4.11	19.59±4.00	20.82±6.11
No	8.10±3.31	19.80±8.79	23.40±6.40	18.40±3.86	19.30±5.62
<i>mwu</i>	253.500	362.500	366.500	302.000	345.500
<b>Have a mamogram</b>					
Yes	7.76±3.08	22.19±7.04	25.22±3.35	19.05±4.40	18.92±5.32
No	7.33±2.96	20.10±5.60	23.80±5.00	19.73±3.66	21.94±6.27
<i>t</i>	.652	1.532	1.492	-.762	<b>-2.356*</b>

\*p<0.05

level measure the level of a women having acceptance of changes in her life in the position of having breast cancer. Being high level of serious recognition toward breast cancer can be caused due to getting information about prognosis of the disease for midwives and nurses and their approaching ages reasoning the risk group. In the searching group, finding out high level of serious consideration can be defined owing to their knowing of the facts about the disease. In this fact, it can be thought that it is accepted as the destiny approach of the cases dealing with future in our society. According to Kađırcıbası (22), at societies having low level of social and economic conditions, it is seen that the belief to external power increases. So, the destiny approach is accepted more and more. This result supports explanation deal with destiny approach. In the study which is called in "the influence on beliefs and scanning behaviours of breast cancer planned educating" done by Aydin & Gozum, teachers' serious perception is recognized to be at intermediate level.

At the end of the study, health motivation of participants is observed to be high. High level of educations and having health se-

curity of the participants can have affected this position positively. In the study of Aydin & Gozum (19), it is also found out that the health motivation of the teachers who are well educated is quite high. In this study it is pointed out that the participants perceived benefits are high and theirs' perceived barriers are low. Thinking of having no difficulties with mammography, the participants with the social security and well education can come due to high level of benefit perception. Aydin & Gozum, at their study, have found the similar results. Moreover, having knowledge about breast cancer and mammography might cause that participants perceived lower the barrier perception and higher the benefit perception. Champion and Husler (1995) (23) have found out that giving information can increase the practices and beliefs positively toward mammography. The high level of benefit perception is very important in acquiring of health behaviours. The studies show that giving knowledge about mammography through training increases the benefit perception and the x-ray rate (16,20,23,24). Apart from these, in the study of Meana and his colleagues the perceived barriers are found out to affect the use of mammography (24). Petro-Nustas (2001) in his study called "young women' beliefs to

mammography" it has been appeared that the high perceiving of barrier perception influences the use of mammography. These results support our comment towards this way (Table 1).

At the end of the study it has been shown that the nurses perceive the benefits of mammography more than midwives. This result can come out due to the fact the nurses are in communication with the patients with breast cancer more than the midwives. So, they can feel themselves closer to mammography scanning to prevent from breast cancer. Furthermore, the nurses having more knowledge about breast cancer during their training may be one of the reasons of positive effect. In the study, the nurses graduated from high school have been found out to have perceived the benefits of mammography. The working year, marital statue, average ages, and family stories of midwives and the nurses at both high school and university education levels have been found out similar. In the study, the health motivation of single midwives and nurses have been found out to be higher than the married ones. Married midwives and nurses can experience life problems with their husband and children, so their health motivation can be thought to be lower. And single midwives and nurses can be thought to have more free time and wish healthier life for themselves.

In the study, it was found out that those who don't having a previous mammogram perceived the barriers of mammography higher than the others. This is an expected result. Those who don't having a previous mammogram are through to perceive the barriers higher owing to fears to the unknown, wrong beliefs about the process or different reasons.

### Conclusions and recommendations

In the study, it has been found out that more than half of midwives and nurses have not been having a mammogram yet. The

majority of midwives and the nurses think that early diagnosis of breast cancer is a must. It has also been preceded that midwives and nurses think that the benefits of mammography are high and the barriers of them are low. These results can lead us that the participants accept mammography approach at early practices. Midwives and the nurses who don't having a mammogram perceived barriers higher than the ones having a mammogram. As a result of these findings, midwives and nurses can be educated about early detection of breast cancer especially mammography thought educational seminars. Finding out the high level of prevention recognition on those who don't having a mammogram can affect the possibility of behavioural starting so, the factors which cause perceived barriers (worrying about having a bad item, not to know the mammography procedure, negative attitudes of health stuff, not having free time, problem creating activity, to forget to apply, thinking about having young age, having more serious problem, not to know how to go and worrying about being exposed to radiation) is known. Furthermore, by using the CHBMS constructs for assessment, midwives and nurses can gain an understanding of the beliefs that influence women's BSE and mammography practice. Further research is recommended using a larger sample size with midwives and nurses including the cost-effectiveness of designing and implementing preventive care.

### Implication

These results can be considered highly important that nurses and midwives working in public health can effectively guide to the women for the early diagnosis and treatment of breast cancer. Consequently, nurses can consider belief factors in training to early detection of breast cancer and also nurses' educational practices can be more successful in reaching the purpose to deal with early detection of breast cancer

### References

1. Güler U. Nursing care at breast surgery. In Aksoy G, ed. Handbook at Surgery Diseases Nursing. Istanbul: İstanbul Vehbi Koc Foundation Publications; 1998; 142-149.
2. Policy of fight with cancer and cancer statistics. Ministry of Health Publication. Ankara; 2002.
3. Aydın İ. The effect on teachers' beliefs and behaviours at breast cancer screening of two different educational methods intention of early detection of breast cancer. (Thesis Advisor: Assoc. Prof. Sebahat GOZUM) Ataturk University Health Sciences Institute Doctorate Thesis. 2004; Erzurum.
4. Secginli S, Nahcivan N: Breast cancer screening behaviors among women. In Proceedings of the 2nd International & 9th National Nursing Congress: 07-11 September 2003 Antalya/Turkey 2003: 59.
5. Roberts MM, Alexander FE, Anderson TJ, Chetty U, Donnan PT, Forrest P, Hepburn W, Huggins A, Kirkparick AE, Lamb J, Muir BB, Prescott RJ. Edinburgh trial of screenin for breast cancer: Mortality at seven years. *The Lancet*. 1990; 335: 241-246.
6. Pender NJ. Health Promotion in Nursing Practice. II. Ed. California: Norwalk; 1987: 43-44.
7. Spector RE. In: Culture Diversity in Health & Illness. Fifth Ed. USA: Prentice-Hall, inc; 2000: 12-15.
8. Olgun N, Oğuz S. Use of Health Belief Model at Effective Health Education. Cyprus: IV. National Nursing Education Symposium Book. 10-12:216-218.
9. Champion VL. Instrument refinement for breast cancer screening behaviors. *Nursing Research*. 1993; 42:139-143.
10. Champion V. Development of a benefits and barriers scale for mammography. *Cancer Nursing*. 1995; 18:53-59.
11. Champion V. Revised susceptibility, benefits, and barriers scale for mammography screening. *Research in Nursing & Health*. 1999; 22: 341-348.
12. Petro-Nustas W. Young Jordanian Women's health beliefs about mammography. *Journal of Community Health Nursing*. 2001; 18:177-194.
13. Kurtz ME, Given B, Given CW, Kurtz JC. Relationship of barriers and facilitators to breast self examination, mammography, and clinical breast examination in a work site population. *Cancer Nursing*. 1993; 16:251-259.
14. Miller AM, Champion VL. Mammography in women ≥50 years of age. *Cancer Nursing*. 1993; 16:260-269.

15. Holm CJ, Frank DI, Curtin J. Health beliefs, health locus of control, and women's mammography behavior. *Cancer Nursing*. 1999; 22:149-156.
16. Champion V, Maraj M, Hui S, Perkins AJ, Thirney W, Menon U, Skinner CS. Comparison of tailored intervention to increase mammography screening in nonadherent older women. *Preventive Medicine*. 2003; 36:150-158.
17. Champion VL, Menon U. Predicting mammography and breast self examination in African American women. *Cancer Nursing*. 1997; 20:315-322.
18. Wu TY, Yu MY. Reliability and validity of beliefs questionnaire among Chinese American women. *Cancer Nursing*, 2003; 26:131-142.
19. Gözüm S, Aydın I. Validation Evidence For Turkish Adaptation Of Champion's Health Belief Model Scales. *Cancer Nursing*. 2004; 27:491-498.
20. Yabroff KR, Mandelblatt JS. Interventions targeted toward patients to increase mammography use. *Cancer Epidemiol Biomarkers Prev*. 1999; 8:749-757.
21. Aksakoğlu G. In: Research Tecnic and Analisis Methods at Health. 1<sup>th</sup> ed. İzmir; Dokuz Eylül University Publication; 2001; 92.
22. Kağıtçıbaşı Ç. Women atatus at Turkey: Croscultural perspectives. In Women and men at 75 year, Ed: Hacimirzaoglu BA. 1<sup>th</sup> ed. İstanbul: History Foundation Publications; 1998; 143-154.
23. Champion V, Husler G. Effect of interventions on stage of mammography adoption. *Journal of Behavioral Medicine*. 1995; 18: 169-187.
24. Meana M, Bunston T, George U, Wells L, Rosser W. Influences on breast cancer screening behaviors in Tamil immigrant women 50 years old and over. *Ethn Health*. 2001; 6 :179-188.

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#### İletişim

İlknur Aydın Avcı  
Tel : 0(505) 203 12 86  
E-posta : ilknura@omu.edu.tr