

Female Staff Knowledge, Attitude and Practice Regarding Breast Cancer Screening in Vaseic Hospital of Sabzevar in 2009

Background: Breast cancer is the most common cancer in women. Improving knowledge and practice level regarding breast cancer screening will reduce the mortality rate of breast cancer. This study assessed female staff knowledge, attitude and practice (KAP) about breast cancer screening to determine educational preference.

Methods: This descriptive- analytical study was conducted in Vaseic hospital of Sabzevar, among female staff who were twenty years old or older. A sample size of 82 from a population of 115 produced a 95% confidence interval. Data was collected with a questionnaire, and were analyzed by spearman's correlation coefficient and one way ANOVA.

Results: The mean knowledge score was 42.68 ± 19 . A very positive attitude to BSE was seen in 77.5%, to physical exam in 83.8%, and to mammography in 63.8%. 62.2% of the people had already done BSE, 11% had done physical exam and 2.4% had done mammography. There was no correlation between knowledge score and age ($P=0.057$), breastfeeding duration ($P=0.910$) and education ($P=0.134$). The attitude of single females was better than married ones. The people with positive family history had better practice ($P=0.019$).

Conclusions: Female staff had average knowledge, positive attitude, and poor performance toward breast cancer screening especially about mammography. According to this study, there was no correlation between KAP score and breast cancer risk factors except positive family history.

Keywords: Attitude; Breast Cancer; Knowledge; Practice; Mammography

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Received: Oct 1, 2011

Accepted: Nov 17, 2011

درابه مستوى المعرفة والعمل عند الموظفين الأناث في مستشفى «واسعی» بمدينة سبزوار نسبة إلى امالیب الغریله لسرطان الثدي والعوامل المؤثرة فی هذا المجال فی سنة ۱۳۸۸ الهجرية الشمسية

التصویب والهدف: يعتبر سرطان الثدي هو الأكثر شيوعاً في نسبة الموت الناتج من هذا السرطان و أيضاً نعلم أن هناك علاقة وثيقة بين مستوى المعرفة والتعامل مع العوامل المذكورة سابقاً لذا تسعى هذه الدراسة الى تعيين نسبة المعرفة عند الموظفين الإناث في «مستشفى واسعی» بمدينة سبزوار تجاه سرطان الثدي لأجل وضع اولويات تعليمية.

الطريقة: إن هذه المطالعة كانت توصيفية - تحليلية اجريت في سنة ۱۳۸۸ (ش. ۵) على ۸۲ آتسه من موظفی المستشفى الواتی اعماهم تتجاوز العشرون عاماً. تم تجميع المعلومات عبر استمارات و تم تحليلها باستخدام اختبار «سبيرمن».

النتائج: كان معدل علامة المعرفة عند الموظفين بالنسبة إلى امالیب الغریله (42.68 ± 19.5) بالنسبة إلى الفحص الذاتي للثدي. 77.5% بالنسبة إلى الفحص الفيزيكي و 83.8% بالنسبة إلى الماموغرافي كان لدرهم نظرائه جيداً. 62.2% من المشتركين كانوا قد اجروا عليه الفحص الذاتي سابقاً. 11% كانت قد تمت معاينتهم بواسطة طبيب و 2.4% فقط قد اجروا صورة الماموغرافي. لم يكن هناك اختلاف ذو قيمة في نسبة المعرفة عند المشتركين لا من جهة السن ولا مدة الرضاعة و لا مستوى الدراسات العلمية. كان هناك تعامل أفضل عند الواتی كان في اقرباتهم سواي سرطان الثدي.

الاستنتاج: كانت نسبة المعرفة تجاه امالیب غریله سرطان الثدي متوسطة و الرقبة مرتفعة و مستوى استخدام الماموغرافي كان متدنياً. لم يكن هناك ارتباط ذو قيمة بين العوامل المؤثرة في سرطان الثدي (سوا العامل العائلي) و مستوى المعرفة في هذا المجال.

الكلمات الرئيسية: المعرفة، سرطان الثدي، العمل، الغریله، مامو غرافي، رقبة.

سبزوار کے واسعی اسپتال میں سینے کے کینسر کی اسکریننگ کی روشوں کے بارے میں خواتین کارکنوں کی آگہی، رجحان، اور کارکردگی کے بارے میں تحقیقات

یک گراؤڈ: چھاتیوں کا سرطان خواتین کو سب سے زیادہ متاثر کرنے والا سرطان ہے۔ سینے کے سرطان کی اسکریننگ کے بارے میں آگہی اور مثبت کارکردگی سے اس سرطان سے بونے والی بلاکتوں میں کمی آجاتی ہے۔ یہ تحقیقی پروجیکٹ شہر سبزوار کے واسعی اسپتال میں انجام دیا گیا اور اس کا مقصد تعلیمی ترجیحات کو معین کرنا تھا۔ اس تحقیق میں واسعی اسپتال کی خواتین کارکنوں نے حصہ لیا۔

روش: یہ تحقیق تجزیاتی اور وضاحتی طریقوں پر انجام دی گئی ہے۔ اس میں واسعی اسپتال کی بیسی خواتین کارکنوں نے حصہ لیا جن کی عمر بیس سال اور اس سے زیادہ تھی۔ ایک سو پندرہ خواتین کارکنوں میں سے بیسی کا انتخاب کیا گیا۔ معلومات کا تجزیہ اسپیرمین کے ضابطے اور اینو ا سے کیا گیا۔

نتیجہ: بریسٹ کینسر کی اسکریننگ روشوں سے اسپتال کی خواتین کارکنوں کی آگہی چوالیس اعشاریہ آٹھ اور انیس اعشاریہ نو تھی۔ ستر اعشاریہ پانچ فیصد کارکنوں کو خود سے چھاتیوں کا معائنہ کرنے کی واقفیت تھی۔ تراسی اعشاریہ آٹھ فیصد کارکنان جسمانی معائنہ اور ترسٹھ اعشاریہ آٹھ فیصد کارکنان میموگرافی کی طرف مثبت رجحان رکھتی تھیں۔ باسٹھ اعشاریہ دو فیصد کارکنوں نے خود سے اپنی چھاتیوں کا معائنہ کیا تھا جبکہ گیارہ فیصد کارکنوں نے ڈاکٹر سے معائنہ کروایا تھا۔ صرف دو اعشاریہ چار فیصد کارکنوں نے میموگرافی کرائی تھی۔ دودھ پلانے والی ماؤں، خواتین کی عمر اور ان کی سطح تعلیم کے لحاظ سے بریسٹ کینسر کی اسکریننگ، رجحان اور کارکردگی میں کوئی معنی خیز فرق نہیں تھا۔ غیرشادی شدہ لڑکیوں کا رجحان شادی شدہ خواتین سے بہتر تھا۔ جن خواتین کے خاندان میں بریسٹ کینسر کے کیس تھے وہ اسکریننگ کے حوالے سے بہتر کارکردگی کی حامل تھیں۔

سفارشات: اس تحقیق سے پتہ چلتا ہے کہ بریسٹ کینسر کی اسکریننگ کے بارے میں ان خواتین کی آگہی متوسط درجے کی ہے لیکن اس طرف رجحان زیادہ ہے۔ عملاً اسکریننگ کرانے بالخصوص میمو گرافی کرانے کی شرح بہت کم ہے۔ چھاتیوں کی بیماریوں کے ریسک فیکٹر خاندان میں بریسٹ کینسر ہونے کے علاوہ بریسٹ کینسر کی اسکریننگ سے آگہی اور عملاً اسکریننگ کرانے کی شرح سے کوئی خاص رابطہ نہیں رکھتے۔

کلیدی الفاظ: آگہی، چھاتیوں کا سرطان، اسکریننگ.

بررسی آگاهی، نگرش و عملکرد کارکنان خانم بیمارستان واسعی سبزوار نسبت به روشهای غربالگری سرطان پستان و عوامل مؤثر بر آن در سال ۱۳۸۸

زمینه و هدف: سرطان پستان شایعترین سرطان در زنان است. از آنجا که با افزایش سطح آگاهی و عملکرد در رابطه با روشهای غربالگری سرطان پستان، مرگ و میر ناشی از این سرطان کاهش می یابد پژوهش حاضر به منظور تعیین آگاهی، نگرش و عملکرد کارکنان خانم بیمارستان واسعی شهر سبزوار در رابطه با سرطان پستان برای تعیین اولویتهای آموزشی انجام شد.

روش: این مطالعه توصیفی تحلیلی در سال ۸۸، بر روی ۸۲ نفر از کارکنان خانم بیمارستان واسعی سبزوار که بیست ساله و بالاتر بودند انجام شد. حجم نمونه مورد نظر با فاصله اطمینان ۹۵ درصد از بین ۱۱۵ نفر از کارکنان خانم بدست آمد. ابزار گردآوری داده ها، پرسشنامه بود. اطلاعات توسط آزمونهای ضریب همبستگی اسپیرمن و آنالیز واریانس یکطرفه مورد تجزیه و تحلیل قرار گرفت.

یافته ها: متوسط نمره آگاهی کارکنان از روشهای غربالگری 42.68 ± 19.5 بود. 77.5% درصد افراد نسبت به خودآزمایی پستان، 83.8% درصد نسبت به معاینه فیزیکی و 62.2% درصد نسبت به ماموگرافی نگرش کاملاً مثبت داشتند. 62.2% افراد تا کنون خودآزمایی را انجام داده بودند. 11% افراد توسط پزشک معاینه شده بودند. فقط در 2.4% افراد ماموگرافی انجام شده بود. آگاهی، نگرش و عملکرد افراد با سن و مدت شیردهی و سطح تحصیلات تفاوت معنی داری نداشت. نگرش افراد مجرد بهتر از افراد متاهل بود ($P=0.019$). کسانی که سابقه سرطان پستان در بستگان آنها وجود داشت عملکرد بهتری داشتند ($P=0.019$).

نتیجه گیری: آگاهی افراد مورد مطالعه راجع به روشهای غربالگری سرطان پستان متوسط، نگرش بالا ولی عملکرد کارکنان مخصوصاً در رابطه با ماموگرافی پایین است. هیچ کدام از ریسک فاکتورهای بیماریهای پستان بجز سابقه خانوادگی مثبت، ارتباط معنی داری با میزان آگاهی و عملکرد ندارند.

واژه های کلیدی: آگاهی، سرطان پستان، عملکرد، غربالگری، ماموگرافی، نگرش

INTRODUCTION

Cancer is the second most common cause of mortality in developed countries and the third cause of mortality in Iran and other developing countries. Breast cancer is the most common cancer in women (1). Persian women suffering from breast cancer are at least one decade younger than women in developed countries (2). In the U.S. approximately one out of every 8 women suffers from breast cancer (3). Early diagnosis of this disease is very effective in its treatment. Screening methods are the best way to detect the disease (3-5). Screening methods for breast cancer include: 1) doing Breast Self Exam (BSE) monthly from the age twenty 2) clinical examination by a physician (Clinical Breast Exam = CBE) every three years between 20-40 years old and then every year. 3) Mammography at 40 and then every 2-3 years (5-8). A study on 30239 patients has shown that breast cancer screening will reduce mortality up to 30% in this common cancer. Another study has shown that mammography as X-ray screening reduces mortality rate up to 20-30 % (6). Therefore, breast cancer screening education has an effective role in reducing the mortality of this common cancer. Before planning each education, the need for education should be assessed (9) therefore KAP (knowledge, attitude and practice) study should be done. Such studies not only help in recognizing the need for health education but also are necessary for the next evaluation of health education by understanding the behavior change of knowledge, attitude and practice. Awareness is data collection in brain in order to use them or recording this information. Attitude reflects physical and psychological tendency towards surrounding issues and usually comes after knowledge. Behavior is the way the individual acts. Although the KAP study has limitations, it is necessary for planning education of individuals, groups, or society (9). KAP study about breast cancer screening methods in urban cities such as Boroujen, Ilam, Sari, Gorgan, Kashan have shown that knowledge was poor, attitude was average, and practice was poor (10-15). While the knowledge and practice of Iranians is less than developed countries (18-16), such a study has not been done in Sabzevar.

Therefore, knowledge, attitude, and practice study regarding breast cancer screening in Vasseie hospital is important for several reasons (6). First; Breast cancer is easily detectable with screening methods and screening of breast cancer decreases mortality rate by 30% (6). Secondly, breast cancer is the third cause of mortality in Iran (1) and special attention should be paid to it. Third, although many studies have examined the knowledge, attitude, and practice toward breast cancer screening methods in different countries, for educational planning in every country data of that country is needed. Although the Khorasan province of Iran, is one of the places with the highest incidence of breast cancer (1) such a study has not been done so far in Sabzevar. Forth, hospital staff all communicate with patients and their awareness in this field will be useful not only for themselves but also for their patients. On the other hand, most studies in Iran have assessed non-medical educated people or people with little education. Hence we assessed knowledge, attitude, and

of the hospital staff in Sabzevar and factors which may affect them.

METHODS

This study is a descriptive - analytical study. Research community was Vasseie hospital staff in Sabzevar in 2009. 82 samples, who accepted to participate in the study, were evaluated. Verbal consent for enrollment was obtained using a standardized script. A sample size of 82 from a population of 115 produced a 95% confidence interval (19). The exclusion criterion was age less than twenty. In this study we assessed knowledge, attitude, and practice related to breast cancer screening methods. In addition to factors which may affect them such as age, marital status, education level, parity, duration of breastfeeding, use of estrogen and progesterone hormones, the history of benign breast disease, family history of breast cancer, and economic status. Information was collected by a physician through a questionnaire that included demographic characteristics, knowledge, and attitude function questions. To prepare the questionnaire we set the tree from root to shoot. We designed some questions for branches using items from previous research. Questions were about the age of screening methods, their frequency, and the best time to do them, attitude, and performance on screening methods. The questionnaire was validated by several professors of Gynecology and Obstetrics of faculty members of Sabzevar university of Medical Sciences. Reliability of the questionnaire was 0.82 confirmed by Cronbach's Alpha test. Data was analyzed thorough the Statistical Package for the Social Sciences (SPSS, version 15) by spearman's correlation coefficient and one-way ANOVA.

RESULTS

The results showed that the mean age of subjects was 30.3 ± 6.16 years old. 72% were married, 26.8% were single and 1.2% were widowed or divorced. The average number of pregnancies was 1.04 ± 0.87 . 52.4 percent of the people had not breastfed. History of hormone use on 73.2 percent was negative. 20.7 percent had used hormones less than 10 years and 2.4 percent had used hormones for more than 10 years. None had a history of breast malignant disease, but 1.2% of patients had a history of benign breast disease. A history of breast cancer in 9.8% of relatives was positive. In 3.7% the history of breast cancer was positive in first degree, second, and third degree relatives. 47.6% had learned BSE thorough their University books and 15.9 percent through personal knowledge and 12.2 percent thorough pamphlets. 24.4% had not learned the correct way of BSE. The average monthly salaries were $358.37 \pm 117 \pm 98$ Rs. The overall mean knowledge score was 42.68 ± 19.0 . The most information about the screening procedures was related to BSE (mean knowledge score = 54.11 ± 29.13). The general attitudes towards BSE in 18.8% of individuals were positive and 77.5 percent were confident about it. 70.7% of the people were quite willing for BSE and only 8.5% were not willing for breast self-examination. 37.8 percent have never done BSE and those who had ever done BSE were only 7.7 percent who had done it regularly and 23.1 percent had done it irregularly and 69.2 percent had seldom done it. The most common cause of not doing BSE was having no

problems. The average knowledge score regarding CBE was 27.01 ± 26.02 . 48.01% of the people knew when they should go for examination by a physician and 25.3% were informed about the frequency of CBE. 13.8 percent of those had positive attitude towards CBE. And 83.8 percent of the staff were sure of CBE usefulness. 89% had never been examined by a doctor and in 11 percent who had referred to a physician the most cause for referring was feeling a lump. 25 percent of individuals have been examined by a doctor just for screening. The average knowledge score regarding mammography was 27.01 ± 26.02 . 46% of people knew that mammography should be started from which age and 16.7% knew that it must be repeated every 3-2 years. 36.8% believed that mammography is requested only if there is a suspicious mass. Attitudes towards mammography were positive in 23.8% of individuals and 63.8% were sure about the usefulness of mammography. 36.6% of people were willing to do, but only 2.4% had mammography at that time and the reason was feeling a lump in BSE. Although 8.5 percent of people were over 40 nobody had mammography as screening. Finally 85.2% of the people had confidence in the usefulness of screening methods, and 13.6% had a positive attitude. Using the Spearman correlation coefficient, showed that the performance is significantly correlated with knowledge (correlation coefficient = 0.218). In other words, the more knowledge the better performance. People with different levels of education did not have significantly different knowledge and attitude, but the educated ones had better performance ($p=0.056$). Function of individuals regarding the marital status was not significantly different. Better attitude was seen in unmarried women ($p=0.019$). Using ANOVA tests represented that knowledge, attitude, and performance is not correlated with the history of breastfeeding and economy status. Knowledge and attitude in individuals with a history of breast cancer in relatives was not different, but those who had breast cancer in relatives had better performance ($p=0.002$). Among older ages, knowledge, attitude, and performance were lower, but not statistically significant.

DISCUSSION

In this study, the overall mean knowledge score of personnel screening methods was 42.68 ± 19.0 . While in a study conducted in Boroujen 52.5% of people were aware of one of screening methods (11). In our study most score was obtained in knowledge about BSE (mean knowledge score = 54.11 ± 29.13). While in a study conducted in Boroujen 37.8% knew about BSE as a screening method. In a study in Saudi Arabia 39.6% of women, had heard of BSE (20). This rate was 80% in Alur batu and Kuantan (16). The better information in our study group in comparison to other cities in Iran is related to their education as a nurse or other related medical sciences. Harmoniously in a study of the hospital staff in Isfahan the knowledge score was like our study (51.5%). Unfortunately the awareness of our population is less than the American society. This indicates that the role of mass media, health care units in developed countries which constantly remind women to take a bearing on self-examination while such propaganda in a country like Iran would be less. In this study, there was a positive

attitude to BSE in 77.5%, to physical examination in 83.8%, and to mammography in 63.8%. While in the study of women in Shahrekord and Brujen 13.53% and 16.7% had a positive attitude towards screening methods respectively (10). Thus, the attitude in our study is significantly better than other studies. Because attitude is less affected over time. And this issue shows how education can be effective in the case of attitude. In this study, 77.5% of people had confidence in the usefulness of self-examination while in Boroujen 43.7% were confident about the usefulness of self-examination (11). In a study conducted in Tehran, 40% (21) and in another study, 32.7% women did not believe in BSE (22). In our study, 70.7% of individuals tended to perform BSE. While in a study in Saudi Arabia and another study in Boroujen 82% tended to do BSE (11, 20). Although 83.8% believed in the usefulness of examination by a physician, and 63.8% believed in mammography, only 43.9% were willing to be examined by a physician and 36.6% tended to have mammography that could be related to the unpleasant nature of this issue as well as fear of radiation hazards.

In this study, 62.2% of people had done BSE, but only in 4.8% it was regular, which was like other studies (11, 16, 21, 23, 24). In other studies, this low level of performance and attitude is justified by low level of knowledge but our study shows that knowledge cannot always affect attitude. In a study on Korean nurses 39.5% had done self-examination during the past year which is much more than our study. In our study 11% of individuals were examined by a doctor while in 25% it was a screening visit. This rate in a study in Zabul on nurses was also 21.7% and in Boroujen 6.2% (11, 25). In this study, only 2.4% had mammography but in Shiraz 9.1% and in Brujen 12.5% had mammography. This may be due to hospital staff awareness of the hazards of radiation. In other studies, the low number of mammograms has been attributed not only due to the cost of mammography but also to the low attitude of women. Because mammography is free for hospital personnel this issue cannot be only because mammography is expensive. In foreign studies having mammography is more than 50% (18, 26, 27) therefore frequent recommendation among women can be effective. As in other studies the major cause of having mammography had been doctor recommendation (28-27).

Performance was significantly correlated with knowledge. So we should improve knowledge as far as we can. Attitudes of single people were better than married people ($p=0.019$) which is similar to other studies (29-30). There was a history of breast cancer in their family in who had a better performance because of higher risk in these individuals and also more fear among them. The result has shown that none of the risk factors of breast disease except family history were significantly related to knowledge and practice. And the most important thing is educating people and reminder of the importance of screening method to them.

This study surely had its own limitations. The sample size was small and the simple sampling of staff assigned from one hospital can limit its generalizability.

Although knowledge and attitude about BSE in this study is more in comparison to other studies the performance is not

better. Therefore the most important thing is not only educating people but also reminding the importance of screening method to them. Especially reminding Mammography as a useful method in adults through the mass media, health centers should be pointed for reducing the incidence of mortality from this common cancer.

ACKNOWLEDGEMENT

We are supported by a grant of Sabzevar University of

Medical Sciences. We acknowledge Ms Samadipur, Dr Ahmadi and Ms Bodaghabadi for their help in validating questionnaires and nurses of Vaseie General Hospital (Sabzevar, Iran) for their help.

Research committee approval and financial support: This study was approved and financially supported by Sabzevar University of Medical Sciences.

Conflict of interest: The authors declare no conflict of interest.

REFERENCES

- Center for disease control, non communicable deputy cancer control office. Iranian annual of national cancer registration report 2004 [editorial]. Chekame ava 2004;p:72
- Harirchi I, Karbakhsh M, Kashefi A, Momtahan AJ. Breast cancer in Iran :results of a multicenter study. Asian Pac J Cancer Prev. 2004 Jan-Mar; 5(1):24-70
- Christensen BL, Kockro EO. Care of patient with reproductive disorder .In: Christensen BL, Kockro EO. Adult health nursing. Elsevier. Mosby. 2003;p:529-531
- Phipps WJ, Monahan MD, Sand JK. Problems of breast .in: Phipps WJ, Monahan MD, Sand JK Medical surgical nursing :health and illness perspectives Philadelphia: Mosby 2006;p:1787-95
- Dean TN, Armando E, Ginloano. Breast cancer. In: Jonathan S. Berek MD . Novak's gynecology. Philadelphia: Wolters Kluwer Company. 2003; p: 546-7
- Danforth gynecology and obstetricrits. Translated to Persian by: Aramesh K. Tehran: Golban pub; 2007.p.1039-1066.[Persian].
- Dirksen SR, Lewis SM. Breast disorders. In: Lewis SM, Heitkemper MM, Dirksen SR. Medical Surgical Nursing: assessment and management of clinical problems. Philadelphia: Mosby 2000;p:1472
- Mandle CL. Health promotion and the individual .In: Mandle E. Health promotion. Philadelphia: Mosby. 5th ed .2002;137-8
- Shafiei F, Azar gashb E, In: Health education .4th edition, Tehran: Tehran university pub; 2004.p.19-36.[Persian].
- Azar amiri D, Zamani M, Tazhibi A, Gangi Foruzan M. Female staff knowledge, attitude and practice regarding self breast exam in Shahr e kord. Scientific Journal of Shahr e kord University of Medical Sciences and Health Services 2002; 4(2):47-52. [Persian].
- Banaian Sh, Kazemian A, Kheiri S. knowledge, attitude and practice regarding breast cancer screening in women who come to Brujen Health unit in 2005. Scientific Journal of Shahr e kord University of Medical Sciences and Health Services 2004;7(4):28-34.[Persian].
- Jokar F, Ghiasi N. knowledge, attitude and practice regarding breast cancer screening in women in Ilam. Scientific Journal of Ilam University of Medical Sciences and Health Services 2000;8:26-27.[Persian].
- Abedian kasgari K, Shah hoseini Z, Adeli M. Attitude toward mamography in women who come to Sari Health unit in 2004. Scientific Journal of Mazandaran University of Medical Sciences and Health Services 2006;16(54):90-98.[Persian].
- Besharat S, Bakhshande S, Rabiei M. knowledge, attitude and practice regarding self breast exam in female student ,staff and women who come to Dezyani hospital of Gorgan. Iran Journal of Nursing 2004;17(39):47-52.[Persian].
- Abedzade M, Sadat Z, Saberi F. knowledge, attitude and practice regarding breast cancer screening in women who come to Kashan Health unit. Scientific Journal of Kashan University of Medical Sciences .2003;26(7):85-92.[Persian].
- Jamalludin AR. Knowledge, attitude and practice on breast cancer among female population of Alur batu village ,Kuantan and its related factors in June 2000. Available from: <http://www.arjamal.com/teachings/survey20%reports/jamalludin20%2003a.pdf>.
- Thomas EC. African American women's breast memories, cancer beliefs and screening behaviors. Cancer Nurs. 2004 Jul-Aug;27(4):295-302
- Elizabeth YL. Kung ,Ah-Chan ,Yuh-Shyan chong. Promoting breast screen to Melbourne chinese women using ethnic-specific health promotion strategies. Internet publication
- Desu, M. M. and Raghavarao, D. 1990. Sample Size Methodology. Academic Press. New York:20-25
- Milaat WA. Knowledge of secondary - school female student on breast cancer and breast self examination in Jeddah .Saudi Arabha East Mediterr Health J.2000 mar-may 6(2-3);338-440
- Haji-mahmoodi M, Motaaeri A, Jarvand S, Ebrahimi M ,Haghighat SH, Harirchi I. Breast self examination :knowledge, attitude and practice among female health care workers in Tehran, Iran. Breast J. 2002; 8(4):222-50
- Ramezani Tehrani F, Mohamad K, Rahgozar M, Baruti E. knowledge, attitude and practice regarding breast cancer in Iranian women 20 to 49 years old. Teb va Tazkie. 2001;42:30-35
- Deapen D, Liu L, Perkins C, Bernstein L, Ross R. Rapidly rising breast cancer incidence rate among asian-American women .Int J Cancer .2002 Jun 99(5):747-50
- Jirojwong S, Lennan M R. Health beliefs, perceived self-efficacy and breast self examination among thai migrants in Brisbane .J Adv Nurse 2003 Feb 41(3):241-9
- Saravani S, Chamani S, Shahraki H, Gholamali zade M. knowledge, attitude and practice regarding breast cancer screening in female nurses of Amiral Momenin hospital of Zabol in 2007. Proceeding of 3th international congress of Breast Cancer; 2007 Feb 237; Tehran, Iran.
- Nekhlyudov L, Degnan RD, Fletcher SW. Beliefs and expectations of women under 50 years old regarding screening mammography; a qualitative study .J gen intern Med. 2003 Mar; 18(3):182-9
- Tanjasiri SP, Sablan -Santos L. Breast cancer screening among Chamorro women in Southern California .J Womens Health Gend Based Med. 2001 Jun; 10(5):479-85
- Bazargan M, Bazargan SH, Calderon JL, Huseini BA, Baker RS. Mammography screening and breast self examination among minority women in public housing projects: the impact of physician recommendation .Cell Mol Biol .2003 Dec; 49(8):1213-8
- Sabzevari S, Alizade M, Borhani F, Kermani Sh, knowledge, attitude and practice regarding breast cancer prevention in Kerman women. Journal of research in health sciences. 2007; 1(2):29-36
- Alame T, Nuri M, Janghorbani M, knowledge and practice regarding breast self exam in female staff of Isfahan hospitals. Proceeding of 3th international congress of Breast Cancer; 2007 Feb 218; Tehran, Iran.