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Women's Knowledge Regarding Screening Mammography at Oncology Teaching Hospital in Baghdad City

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Abstract:
Background: *Mammography screening is a protection measure for women aged 40 year and above and who have risk factors from breast cancer, early detection and diagnosis to facilitate treatment and cure.*
Objectives: *To assess women's knowledge related to mammography screening, and to find out the relationship between women's knowledge toward screening mammography and studied variables.*
Methodology: *Descriptive analytical design was conducted in the Oncology Teaching Hospital / Medical City during November* ***12th, 2015 to 10 August 2016****.* ***The Sample****: A purposive sample was selected from the* ***(150)*** *women who attended for mammography screening. A Questionnaire designed by researcher to measure the variable underlying the present study, the questionnaire consisted of two parts: General characteristics, reproductive health characteristics, past family history, while the second part contains the women's knowledge. Validity and Reliability: Validity of the instrument was established through a panel of (16) experts, and reliability by calculating the alpha correlation coefficient****.*** *The data were analyzed using descriptive and inferential statistical procedure for data analysis.*
Result: : *Results of the study revealed that* ***69 (40.0%)*** *of women their age ranged between* ***(40-49)*** *years,* ***34 (22.7%)*** *graduates of the primary school,* ***80 (78.7%)*** *were married and* ***126 (84.0%)*** *of women are living in nucleus families, and* ***107 (71.3)*** *of the women who attended for mammography housewives , and* ***56 (37.3%)*** *of the sample of the study participants mentioned that the monthly income is not enough to* ***123 (82.0%)*** *of the sample their age of (menarche) was ranged between* ***10-14*** *years old.* ***84 (56.0%)*** *of the study sample were ranging their menstrual cycle between* ***4-6*** *days on a regular basis and* ***74 (49.4%)*** *had dysmenorrhea during the menstrual cycle* ***80 (55.3%)*** *of women suffer from the disorder of the menstrual cycle, which implement investigate and attend to visit doctor* ***67 (44.7%)*** *of the women their age of married was ranged between* ***(21-30)*** *years, as well as they had* ***(1-4)*** *children* ***74 (49.4%)*** *and* ***80 (53.3 %)*** *of them did not suffered from abortions, in addition to the* ***96 (64.0%)*** *did not use hormonal family planning****,*** *and* ***85 (56.7%)*** *of women have problems with breast previous mass fibrosis secretions and changes in shape, size and color of breast as well as* ***104 (69.0%)*** *women did not monthly breast self-examination, women's knowledge of study sample in all item have had moderate mean of score except the item number (6,7) : (Mammography can decrease mortality rate of breast cancer women needs mammography periodically) have low mean of score.*
Conclusion: *The results show the highest percentages is for moderate score concerning women's knowledge about mammography screening and the low score for women knowledge about number of time to screening mammography and mammography screening decrease mortality rate.*
Recommendations: *Based on the results of the study, the researcher recommends the following:*
1. Spreading health awareness between women through seminars and mass media about the importance of protection and early detection of breast cancer.
2. Starting the routinely schedule of screening of breast cancer and clarifying number of screening and doctor visit for women aged 40 year and above and for women with risk factor for breast cancer even if they are under age 40 year.
3. Encouraging women to monthly self-examination of the breasts, it's very important step to protect from breast cancer because woman can feel and note the changes that happen to breasts, and can tell doctor about that to start screening and investigations.
Keywords: *Breast cancer, knowledge, Mammography, Relationship.*

I. Introduction

Mammography is a specific type of breast imaging that uses low-dose x-rays to detect cancer early before women experience symptoms [(1)]**.** Early detection of breast cancer with screening mammography means that treatment can be started earlier in the course of the disease, possibly before it has spread. Results from randomized clinical trials and other studies show that screening mammography can help reduce the number of deaths from breast cancer among women ages 40 to 74; especially for those over age 50 [(2)]**.** Regular mammograms can often help to find breast cancer at an early stage [(3)]. In many countries, screening programs

are mandatory for women over 50 years of age. Due to the higher incidence of breast cancer in older women [4, 5]. The lack of public knowledge about cancer is a potential barrier in preventing women from participating in such studies and in cancer control activities [6]. Breast cancer is the most common cancer and the second principal cause of cancer deaths in women (one from six women) [7]. It was obvious that there have been significant improvements in knowledge of and encouragement to have mammograms. Although the routinely mammography screening can be effective in the early detection of breast cancer, mammography remains underused by some women [8]. The poor knowledge and wrong beliefs about breast cancer prevention are responsible for a negative perception of the curability of a cancer detected early and of the efficacy of the screening tests [9]. Lack of basic knowledge and an effective information delivery system for breast cancer further threatens the life and well-being of women [10]. The respondents displayed a knowledge deficit about both breast cancer and breast cancer screening which was evident from the poor appreciation of the risk factors and high level of misconceptions and misinformation [11] . Mammographic screening has improved breast cancer survival in the screened age group. This improved survival has not been seen in older women (>70 years) where screening uptake is low [12 , 13]. So the objectives are to assess women knowledge related to mammography among study sample, and to find out the relationship between women's knowledge toward screening mammography and studied variables (age, family history, level of education and others studied variables).

II. Methodology

A descriptive analytic design was carried out at Oncology Teaching Hospital in Baghdad City during November 12th, 2015 to 10 August 2016. A purposive sample was selected from the **(150)** women who attended for mammography .**Data collection:** was done through by interview the questionnaire underlying the present study, Questionnaire was consisted of two parts: participants' general characteristics, reproductive health, past family history, second part contains the women's knowledge toward mammography. Validity of the instrument was established through a panel of **(16)** experts, and reliability by calculating the alpha correlation coefficient**.** The data were analyzed approach by using (SPSS 20) using descriptive and inferential statistical test for data analysis.

Ethical consideration:

Verbal consent from each woman of the study sample was obtained and the participation was confidential and voluntary, the information was for research purposes only.

III. Results

Table (1): Distribution of study sample according to women's demographic data characteristics (N=150).

Variables Age / years	No.	%
30-39	9	6.0
40-49	69	40.0
50-59	47	31.3
60-69	20	13.3
70-79	5	3.3
$\bar{X}$= 50.16 ± 8.91 Min.(30), Max.(78)		
Educational Level		
No write no read	23	15.3
Read only	6	4.0
Write and read	8	5.3
Primary graduate	34	22.7
Intermediate graduate	18	12.8
Secondary graduate	13	8.7
Institute graduate	16	10.7
College and above graduate	32	21.3
Occupational status		
Working	43	28.7
Not working	107	71.3
Monthly income		
Enough	40	26.7
Enough to some extend	54	36.0
Not enough	56	37.3
Marital status		
Married	104	78.7

Single	18	8
Widow	22	12
Divorce	6	1.3

Table (1) Illustrates that the highest percentage (40.0%) of women's age (40-49) with {$\bar{X}$ 50.16 ± 8.91 Min. (30), Max. (78)} Highest percentage of women's educational level is (22.7%) for primary school. Highest percentage (71.3%) of women's occupational status is not working. Highest percentage of monthly income (37.3%) to women did not have enough monthly income. Highest percentage of study sample (78.7%) were married.

Table (2): Distribution of study sample according to women's reproductive variables (N=150).

Reproductive variable	No.	%
Age at first menstrual/ by years		
10-14	123	82.0
15-20	27	18.0
$\bar{X}$ = 13.21 ± 1.56 Min.(10) Max(18)		
Number of gravida		
Unmarried	20	13.3
Primi gravida	3	2.0
2-4 pregnancies	48	32.0
5 pregnancies and above	79	52.7
Number of Abortion		
No abortion	80	53.3
1-2 times	49	32.6
3-4 times	17	11.3
5-6 times	4	2.8
Family planning used		
used	54	36.0
No used	96	64.0
Breast feeding		
Breast fed	123	82.0
Artificial feeding	27	18.0
Breast feeding duration/ months is $\bar{X}$ =72.66 ± 72.49 Min.(0), Max.(360)		

Table (2) Illustrates that the highest percentage of women's age at first menstrual is (82.0%) of women age between (10-14) year with {$\bar{X}$ 13.21 SD 1.56± Min. (10) Max (18)}. Highest percentage of women with regular menstrual cycle is (82.0%) of women. Highest percentage of women's number of gravida is (52.7%) of women who pregnant in 5 pregnancies and above. Highest percentage to number of abortion is (53.3%) of women with no abortion. Highest percentage of women who used family planning is (64.0%) of women. **(**82.0%) is the highest percentage women with breast feeding. the breast feeding duration is {$\bar{X}$ 72.66 months ± 72.49 Min. (0), Max. (360)}.

Table(3): Distribution of study sample according to women's family history of breast cancer (N=150).

Past history variables	No.	%
Pervious breasts surgery		
Yes	60	40.0
No	90	60.0
Any changes in size, shape and color of breasts		
Yes	78	52.0
No	72	48.0
Doctor visited for health follow-up		
Yes	75	50.0
No	75	50.0

Table (4-3) Illustrates that the highest percentage of women has a previous problem in breast (56.7%) of women **.**women no previous surgery in breast in highest percentage is (60.0%) of women. women with changes in size and color of breasts highest percentage are (52.0%), of women. Behalves percentage (50.0%) for each yes and no doctor visits.

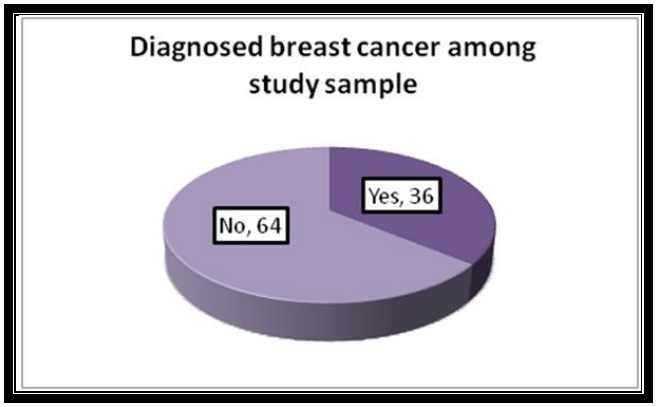

Figure (4) shows that the highest percentage is (64%) for women who did not diagnosed with breast cancer, while the lowest percentage is (36%) for women who diagnosed with breast cancer.

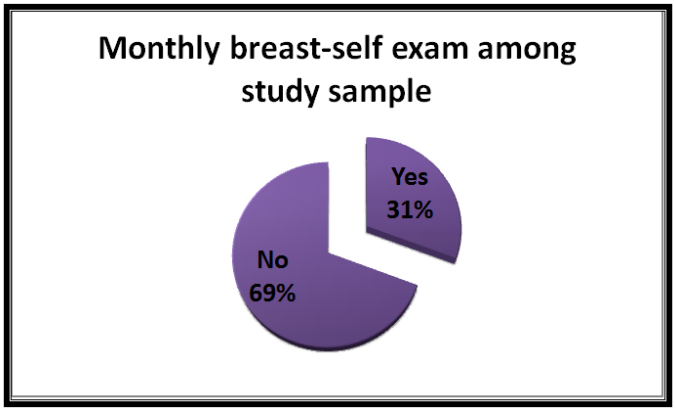

Figure (5) shows that the highest percentage is (69%) did not implement breast self-examination, while the lowest percentage is (31%) implement breast self- examination.

Table (4): Distribution of study sample according to women's Knowledge toward screening mammography (N=150).

NO.	Knowledge Items	I know		Not sure		I don't know		MS.	Assessment
		NO.	%	NO.	%	NO.	%		
1	Mammography is a device to detect tumors and mass	83	55.3	5	3.3	62	41.4	2.14	Moderate
2	Mammography take an image to breast cells	63	42.0	12	8.0	75	50.0	1.92	Moderate
3	Mammography can detect mass in breast	56	37.3	12	8.0	82	54.7	1.83	Moderate
4	Mammography give a chance to revive from breast cancer	50	33.3	5	3.3	95	63.3	1.70	Moderate
5	Mammography can discover tumor and fibroid in breast	54	36.0	10	6.7	86	57.3	1.79	Moderate
6	Mammography can decrease mortality rate of breast cancer	1	0.7	57	38.0	91	60.7	1.39	Low
7	Woman needs mammography periodically	1	0.7	57	38.0	94	61.3	1.41	Low
8	Mammography heath keeper and protection from breast cancer	94	62.7	7	4.7	49	32.7	2.30	Moderate
9	40 years woman needs to mammography once an annually.	87	58.0	8	5.3	55	36.7	2.21	Moderate
10	Screening mammography a week after menstrual cycle	90	60.0	17	11.3	43	28.7	2.31	Moderate
11	Screening mammography can find breast cancer even before symptoms appears	61	40.7	13	8.7	36	50.7	1.63	Moderate

Shows that there were moderate mean of score in all items except items no. (6) Mammography can decrease mortality rate of breast cancer and item no. (7) Woman needs mammography periodically had low mean of score.

Table (5): Association between women's knowledge toward screening Mammography and studied variables (N=150).

No.	Variables	Knowledge			
		χ^2	df	P. Value	Sig.
1.	Age	7.79	4	0.099	NS
2.	Marital status	4.942	3	0.176	NS
3.	Educational level	53.053	7	0.000	NS
4.	Occupational status	14.267	1	0.000	NS
5.	Monthly income	5.428	2	0.066	NS
6.	Age at first menstrual	0.050	1	0.823	S
7.	Number of gravida	12.146	2	0.002	NS
8.	Number of abortion	9.634	6	0.141	NS
9.	Family planning used	2.961	2	0.227	NS
10.	Breast feeding	0.650	2	0.723	NS
11.	Family history	0.082	1	0.774	S
12.	previous problems in breasts	2.487	1	0.115	NS

Table (5): indicate there are no statistical significant differences between women's knowledge and socio demographic data, reproductive variables and past history toward mammography only in age at first menstrual and family history.

IV. Discussion

The findings of the present study have indicated that the highest percentage (40%) of the study sample were at age (40-49) year as shown in table (1) that is agree with **Charles and Smart ,**who state that the Mammography in women ages 40-49 may save lives[(14)] . Regarded marital status the highest percentage (78.7%) of the study sample was married as shown in Table (1) and that agree with **Niels** who stated that the highest percentages of women who participating in mammography screening are married [(15)]. The highest percentage (22.7%) of study sample were primary school graduate as shown in table (1) that agree with **myvon, who** stated that the women with lower primary educational level [(16)]. Highest percentage (71.3%) of study sample were not working as shown in table (1) and the study shown that in the **Pınar,** who mentioned that the high percentage of women were housewives[(11)] . The highest percentage (37.3%) of study sample were not enough monthly income as shown in table (1) and it is agree with **E E Calle** who state that the Low income was a strong predictor of mammography underuse [(10)] . The highest percentage (82.0%) of study sample women who started menstrual cycle between age (10-14) as shown in table (2) and it is agree with **DAN**, who state that the early menarche is an important risk factor for breast cancer, The demonstration of early ovulation after early menarche is in conflict with the oestrogen-window hypothesis suggesting a longer duration of an ovulatory cycles to explain the increased risk of breast cancer after early menarche [(17)]. The highest percentage (55.3%) of study sample of women who has menstrual disturbance as shown in table (2) and it is agree with **Kelsey JL** who mentioned that the than shorter intervals between menstrual periods, which tend to increase the risk of breast cancer[(13)] . The highest percentage (62.0%) of study sample of women who suffer from amenorrhea as shown in table (2) and that is agree with **Nagi ,**who stated that the amenorrhea happened with the treatment of breast cancer[(19)]. The highest percentage (52.7%) of study sample of women pregnancies they have five pregnancies and above as shown in table (2) and other study show that women who had a full-term pregnancy after breast-cancer treatment had a non-significantly reduced risk of death, compared with women who had had no full-term pregnancy after adjustment for age at diagnosis, stage of disease and reproductive history before diagnosis [(20)].

Highest percentage (53.3%) of study sample of women who not experience abortion [18] **Mike,** study show Women under age 18 who had an induced abortion have an increased breast cancer risk of 150%.Women of age 30 and above who aborted a first pregnancy increase their breast cancer risk by 110%, women who have an induced abortion have an increased breast cancer risk of 50%[19]. The highest percentage (64.0%) of women who not use family planning and other study show that there was a highly significant trend in risk of breast cancer with total duration of oral contraceptive use with relative risks for 49-96 months use [20]. The highest percentage (82.0%) and **($\bar{X}$ =72.66 ± 72.49 Min.(0), Max.(360))** study sample of women who experience breast feeding their children and that agree with several studies which are suggested that breastfeeding may reduce the risk of several types of breast cancers. A study in Japan concluded that breastfeeding may possibly decrease the risk of breast cancer and in project; case–control studies suggested a statistically significant reduction of risk of breast cancer for women who had breastfed, and in women with a longer duration of breastfeeding [25] . Highest percentage (56.7%) of study sample of women who suffer from previous breast problems and that is agree with **Celia,** who stated that the Mammographic features were associated with known breast cancer risk factors. However, the high-density parenchymal pattern effects were independent of family history, age at first birth, alcohol consumption, and benign breast disease increased risk of breast cancer [21]. **JN,** who stated that the incidence of developing carcinoma of the breast at least 6 months after the radiographic examination. In one of the two sub studies, there was a 37 times greater incidence for those at highest risk compared to the low risk group [22]. Highest percentage (64.0%) of study sample of women who not diagnosis with breast cancer, and the study show that the women with a family history of breast cancer into moderate-risk and high-risk groups. A family at high risk has features suggestive of an autosomal dominant predisposition to breast cancer. For high-risk status include the following: one or more relatives with breast cancer, early age at the diagnosis of cancer as a "Doctor Visit" highest percentage (50.0%) percentage for the patients who visit or not visit the doctor and this agree with **Neeraj,** who mentioned that the patient–physician interaction assumes great significance in the cancer care delivery process. It is encouraging to note in the researches, largely dominated by studies conducted in primary care, the effect of physician communication behavior (i.e., interpersonal communication, information exchange, and facilitation of patient involvement in decision-making[23] . The highest percentage (69.0%) of study sample for women who not undergo to monthly breast self-examination and that disagree with **Charles M.** who mentioned that the Breast self-examination is safe and without cost to the women who practice it. It has the potential for helping more women to find their breast cancer early than any other method now available and feasible for widespread use [24]. The results of present study have revealed that there is a moderate mean score in Items related to the knowledge domain starting from items no.(1,2,3,4,5,8,9,10,11,12,13,14) and low mean of score in only two items (6,7) (6) Mammography can decrease mortality rate of breast cancer and item no. (7) Woman needs mammography periodically; it is similarly to **Michael,** Who stated that the women in Nigeria have poor knowledge of breast cancer and minority practice Breast Self-Examination and Clinical Breast Examination. In addition, education appears to be the major determinant of level of knowledge and health behavior among the study participants [25]. **Luiz,** Reported that the women users of local health services had no adequate knowledge and practice related to mammography despite having an inadequate attitude about this exam [26]**. K Elsie,** Women in this study had inadequate knowledge and inappropriate practice related to mammography as a procedure for breast cancer investigation. Regarding to women's knowledge: there was a statistical significance between women's knowledge and socio demographic data, reproductive variables and past history toward mammography only in age at first menstrual (χ^2 =0.050, P=0.823) and family history (χ^2 =0.082, P=0.0774), the present study agree with **K Elsie** [27] . Regarding seeking for mammography; level of literacy, occupation and marital status were significant on bivariate analysis, however only level of literacy and employment remained the significant independent variables on logistic regression analysis. The main barrier to mammography was mainly lack of information, and agree with **S Jarvandia,** who mentioned suggest that although the majority of Iranian teachers seem to be quite knowledgeable about breast cancer, they need more education on breast cancer and Breast Self-Examination [28]. Agree with **Tarek,** who reported that the women, irrespective of their educational status, had knowledge deficits regarding breast cancer risk factors and underutilization of the recommended breast cancer screening. Several barriers are contributing to such knowledge deficits and screening behaviour [29]. **Suarez L,** The low screening participation among Mexican-American women may be due to their limited awareness and knowledge about breast and screening examinations [30].

V. Conclusion

The study's results concluded that the highest percentages of the study sample were of women's age between 40-49, low education level and monthly income insufficient with high parity and breastfeeding their baby for more than one year and they had breast cancer, Therefore, there are statistically significant relationship between (Age at first of menstrual cycle and family history of breast cancer): Encourage women 40 years age and above for early detection for breast cancer through undergo to screening mammography and monthly breast

self- exam, all women most have enough knowledge about menopause age and risk factors about breast cancer and schedule about regular investigations and screening all these recommendations to protect women from breast cancer.

VI. Recommendations

Based on the results of the study, the researcher recommends the following:

1. Spreading health awareness between women through seminars and mass media about the importance of protection and early detection of breast cancer.
2. Starting the routinely schedule of screening of breast cancer and clarifying number of screening and doctor visit for women aged 40 year and above and for women with risk factor for breast cancer even if they are under age 40 year.
3. Encouraging women to monthly self-examination of the breasts, it's very important step to protect from breast cancer because woman can feel and note the changes that happen to breasts, and can tell doctor about that to start screening and investigations.

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