Assessment of Nurses′ Practices Regarding Breast Self-Examination

Shiamaa Fathy1, Nagwa Ibrahim El- Feshawy 2*Amina El-Nemr 3

1 B.S.c-Nursing, Nursing Specialist at Mansoura General Hospital

2 Lecturer of Woman's Health and Midwifery Nursing Department, Faculty of Nursing, Mansoura University, Egypt,

3 Professor of Woman's Health and Midwifery Nursing Department, Faculty of Nursing, Mansoura University, Egypt,

*Corresponding author: Shiamaaf035@gmail.com

1.ABSTRACT

Background: Breast self-examination (BSE) is a simple screening tool that has an effective role in early detection of any abnormalities in the breasts. **Aim:** The current study aimed to assess nurse's practice regarding breast self-examination**. Study design:** A ddescriptive cross sectional study design was utilized. **Setting:** The study was conducted at Temai El-Amdid Central Hospital, Mansoura city, Dakahlia Governorate. **Sample type:** A convenient sample was used. **Study subjects:** the study subjects included 193 nurses who were working at the previous mentioned setting. **Tools:** Two tools were used for data collection; A structured interview questionnaire and Observational checklist. **Results:** The study showed that more than half of the studied nurses knew that the suitable time for BSE, and most of them knew that BSE is important for early detection of breast cancer. Also, about two-thirds of them correctly inspect both breasts for symmetrical shape, size and inspect nipple & areola. Despite, the majority of the studied nurse's correctly palpated breasts by the palmer surface, but they inappropriately verified any mass for site tenderness, size, and shape. Furthermore, most of them correctly expressed the nipples for any discharge, and examined the axilla area for any nodes. **Conclusion:** About two-thirds of the studied nurses had a satisfactory level regarding inspection, while most of them had unsatisfactory level regarding breast palpation. In addition, there was a significant relationship between average scores of practice and nurses who had personal or family history of breast tumors. **Recommendations:** Training sessions including (simulator, videos, and films) should be designed to enhance nurses' competences regarding BSE practice.

Keywords: : Assessment, Breast self-examination, Nurses

2.Introduction:

Breast cancer is a major public health problem with an estimated incidence over 1.5 million new cases worldwide and over 459,000 related deaths annually **(Bonadio, Moreira, & Testa, 2021).** Breast and cervical cancer are the major cancer killers for women above 30 years in developing countries, with an increasing annual incidence from 1.7 million cases in 2012 to 2.3 million cases in 2020 **(WHO, 2022).** Early diagnosis of breast cancer has a positive effect on the prognosis, as well as limits the development of complications and disability; it also increases life quality and survival. For breast examination, three tests were recommended by American Cancer Society: clinical breast examination, mammography, and breast self-examination **(Albeshan et al., 2020).** Among the three methods recommended, breast self-examination (BSE) remains the cheapest and easiest method for early diagnosis of breast cancer. Other screening techniques such as mammography and clinical examination are not commonly done in many

countries due to low level of awareness, ignorance, illiteracy, and cost **(Sung et al., 2021)**. Breast self-examination (BSE) is a method of breast examination in which a woman inspects and examines her breasts for lumps and changes in shape and color as a result of abnormal growth of cells in the mammalian gland. It is also the awareness of the woman about her breasts' normal appearance, and ability to identify changes that occur in terms of the breast size or shape, and the existence of lumps, dimples in the skin, skin redness, and discharge **(Miftalia Anugrah Putri, 2021).**

Despite the much attention and inputs from international, government agencies and non-governmental organizations to sensitize women's awareness regarding regular breast examination, but there is a wide gap has been observed across the globe between the knowledge and the actual practice of BSE. Previous studies that assessed awareness about BSE among medical and paramedical staff reported that majority of them

knew the importance of initial breast cancer screening by BSE, but the overall practice was low **(Amin, Ewunonu, Oguntebi, & Liman, 2018 and Udoh, et al 2020).**

Awareness of breast self-examination practice among female health care providers is very important, as it not affect their health but also the manner they educate the other females regarding how to perform breast self-examination. Nursing staff have a better role as public educators. Nursing role is a predominantly educative: encouraging women to be familiar with their breasts, offering both verbal and written information, counselling women how to perform breast self-examination, and informing women about the importance of monthly screening their breast through breast self-examination **(Sung et al., 2021)**.

2.1 Significance of the Study

Breast cancer is the commonest cancer among women in Egypt. It constitutes 33% of female cancer cases and more than 22,000 new cases diagnosed each year. Despite significant improvements in survival figures in many developed countries yet the 5-year survival in Egypt as reported in several studies remained lower ranging from 28% to 68% **(WHO, 2022).**

According to the Egyptian Ministry of Health and the Demographic and Health Survey project showed that only 6% of Egyptian females performed breast self-examination (BSE). This could be due to a medley of factors, some of which can be put down to the service provider (i.e. health care systems) while other factors are related to women including social, cultural, financial and fear of the disease but it is believed that one of the main factors keeping Egyptian women from undergoing breast screening is lack of awareness of breast cancer and the importance of screening in early diagnosis **(Abdelaziz et al., 2021).**

Nursing staff should be a role model and they should educate the community to create awareness of early detection of signs and symptoms of breast cancer through regular breast self- examination. Nurses playing a pivotal role in educating and empowering women for breast cancer screening techniques. Many studies reported that women who are advised about breast awareness by a healthcare professional demonstrate a greater knowledge and confidence than when the information comes from other sources **(Shallo & Boru, 2019 and Alotaibi et al., 2022).** So, maximizing nurses' competence in practicing breast self-examination is considering the first step to enhance public awareness of BSE practice.

2.2 Aim of the study:

The current study aimed to assess nurse's practice regarding breast self-examination.

2.3 Research question:

What are the nurse's practices regarding breast self-examination?

3. Subjects and Method:

3.1 Research design:

A descriptive cross sectional study design was used.

3.2 Study Setting:

The study was conducted at Temai El-Amdid Central Hospital. The hospital provides health care services for all surrounding villages. As, it provides health care services to women during their reproductive period, in addition to other health services. This building consists of four floors. The first floor includes emergency departments and outpatient clinics, the second floor includes operating department, nursery and laboratories, the third floor includes general and medical ICU, and the fourth floor includes obstetrics, gynecology and surgical departments.

3.3 Sampling

A convenient sample of 192 nurses who are working at Temai El-Amdid Central Hospital during data collection period.

3.4 Tools of data collection:

To achieve the aim of this study, two tools were utilized to collect data for this study.

Tool (l): Structured Interview questionnaire: It was designed by the researcher after reviewing the related literature (**Al Eid etal. 2019**). **It included four parts:**

Part I: **Socio-demographic data of the studied nurses:** such as age, marital status, residence, level of education and income.

Part II: **Reproductive history of the studied nurses:** such as gravidity, parity, breastfeeding pattern, personal history of benign breast conditions, family history of breast cancer and degree of relation.

Part III: **Professional characteristics of the studied nurses:** such as working department, years of experience and daily working hours, previous training courses about BSE.

Part IV: **Knowledge of the nurses about breast self-examination (BSE):** suitable time for BSE, monthly performance of BSE, factors affecting regular practice, frequency of BSE, is BSE important for early detection of breast cancer, and methods of BSE.

A scoring system was applied as each question scored "0" if the answer is incorrect and "1" if it is correct. The knowledge part included 8

items, so the minimum to maximum score is ranged from 0 to 16. The total is categorized into poor (< 50% of the total possible score), fair (50-75.0%) and good ((≥75% of total possible score**).**

Tool (II): **Tool (2):** **Observational checklist:** It will adapted from *(Almeldien et al., 2018)*.The checklist was checked by the researcher during nurse's performance of BSE and included three parts (inspection, palpation and position during inspection and palpation). **The inspection part** included items as: inspect both breast for symmetrical shape, size, inspect nipple and areola, inspect skin for any changes, and inspect both arms for any changes. **The second part** was palpation and included items such as: how nurses palpate their breast either by palmer surface of fingers or by tip of fingers, the palpated part (breast tissue, nipple areola, axillary tail) method of palpation, verification of any mass, expression of nipple for any discharge, examination of the axillary lymph nodes, palpation of supra-clavicular fossae, and repetition of the second breast as the same way. **The third part** of observation included different positions of nurses during inspection and palpation as (hands rested on thighs, hands pressed onto the hips, arms raised up, leaning forward in front of the mirror, and lying down on bed).

Scoring System

A scoring system was applied to assess the level of performance of each subject, each item of the practice tool is recorded in a Likert scale (not done = 0, done inappropriately = 1, done correctly =2). The total score is the algebraic sum of the individual items. Minimum to maximum score is ranged from 0 to 32. The practice is categorized as Unsatisfactory (<75% of the total possible score) and Satisfactory (≥75% of total possible score**).** *(Almeldien et al., 2018)*.

3.5 Validity and Reliability of the tools

- Data collection tools were tested and juried for the content validity by three specialists in women health and midwifery nursing field. These experts assessed the tool for clarity, relevance and applicability. Changes were considered according to their comments as certain sentences were simplified to be easily under stood by the women.

- Reliability of the second tool was tested for its internal consistency by using Cranach's Alpha test it was (0.836) this illustrated that tool was highly reliable.

3.6 Pilot study:

- The pilot study was conducted prior to data collection process on 10% of studied sample (20 nurses). The goal of the pilot study was to evaluate the clarity and applicability of the tools used in the study prior to the data collection process, as well as the time required for response. The pilot findings were not included in the sample size, and adjustments to the tools were made as a consequence of data analysis of the pilot results, such as paraphrase of some words.

3.7 Ethical considerations:

The Ethics Committee of the Faculty of Nursing, Mansoura University granted official permission, and an official letter from the Faculty of Nursing, Mansoura University was directed to the head of Temai El-Amdid Central Hospital, to obtain official consent to conduct the study after explaining its goal.

The research purpose was explained to the subjects, and signed permission to participate in the study was acquired. Participation in the study was entirely optional, and all participants were free to leave at any moment. Throughout the study, anonymity, privacy, safety, and confidentiality were strictly maintained. The study participants were informed that the findings will be utilized as part of the required research for their Master's degree, as well as for publishing.

3.8 Field work:

- This process was started by obtaining approval from the concerned authorities in the previous mentioned setting. Tools for data collection was designed after reviewing the national and international related literatures. Then pilot study was conducted on 20 studied nurses before collecting the actual sample. This process took about one month from the beginning of January 2020 to the end of February 2020.

- The researcher attended the nursing departments at Temai El-Amdid Central Hospital three days weekly from 9 A.M. to 1 P.M. Until the calculated sample size will be obtained. During the first interview, the researcher introduced herself to the nurses, explained the aim and scope of the study and obtained the nurses' written informed consent for participation in the current research.

- A private and comfortable area in the nurses' changing room was chosen for observing the nurses during breast self-examination, also a suitable paraffin was used at this area to maintain nurses' privacy. At the end of the nurses shifts as they finished their duties and daily patients care, the researched conducted

the individual interview with the nurses. Firstly, the researcher collected the socio-demographic data, reproductive history, and professional characteristics from nurses. In addition nurses' knowledge about breast self-examination was obtained.

- After that, the researcher asked the nurses to perform breast self-examination by herself through which the researcher used the observation check list at the same time to mark every steps performed by the nurses during the whole procedure. The average time spent during the interview ranged from 20-30 minutes with each participant to complete the BSE practice.

- At the end of every interview, the researcher assisted the nurses to wear her clothes, and thank them for their collaboration in the current research. The researcher continued to attend the previous mentioned setting until completion the data collection process.

3.9 Statistical analysis

Collected data were coded, computed and statistically analyzed using SPSS (statistical package of social sciences), version 22. Data were presented as frequency and percentages (quantitative variables). Chi square (χ^2) was used for comparison of categorical variables, and was Exact test if the expected value of any cell was less than 5. The difference was considered significant at $P \leq 0.05$.

4.Results

Table (1) presents that the age of the studied nurses ranged between 20 to 52 years, with mean age 32.06 ± 6.86 years. Nearly half of them graduated from technical institute of nursing. The majority of the studied nurse (80.2 %) were married, and most of them had enough income, and from rural areas (92.7% & 94.8% respectively). Majority of them were physically inactive and had medical problems (76.6% & 75.5% respectively).

Table (2) shows that the majority of the studied nurses were multigravida (82.3%), most of them (92.3%) were multipara and more than two thirds of them (70.3%) had 1-2 children. Majority of the studied nurses breastfeed their babies and using contraceptives in which hormonal methods represented 66.6% among methods used. Most of them not menopaused and more than half of the menopaused nurses using hormonal replacement therapy.

Table (3) shows that the majority of the studied nurses didn't have personal history of benign breast conditions. Adenosis considered the

most benign condition among other conditions. Also, the majority of them didn't have family history of breast cancer, in which close relatives and mothers were the most relatives affected among those who had family history of breast cancer.

Table (4) presents that more than half of the studied nurses knew that the suitable time for BSE is one week after the menses and they performed BSE monthly by palpation only (56.8% & 53.1% respectively). Also, most of them knew that BSE is important for earl detection of breast cancer.

Table (5A) reveals that about two thirds of studied nurses (72.4%) correctly inspect both breasts for symmetrical shape, size and inspect nipple & areola. More than half of them correctly inspect skin for any changes, inspect breast for any apparent masses and inspect arms (66.7%, 66.1% & 63.5% respectively). While, more than two thirds of them inappropriately inspect breasts in different positions.

Table (5 B) shows that the majority of the studied nurse's correctly palpated breasts by the palmer surface, palpated each quadrant and the axilla (83.9 % &83.3% respectively). On palpation, most of them inappropriately verified any mass for site tenderness, size, and shape (96.9%, 96.9%, 98.4% & 99% respectively). While verification is not done for consistency (75.5%), surface (90.1%) and mobility (93.8%). Also, most of the studied nurse's correctly expressed the nipples for any discharge, examined the axilla for nodes and repeat the examination in the second breast (94.8%, 94.3% &99 % respectively).

Table (6): Relationship between average practice scores and nurses' knowledge regarding BSE (192): shows the relationship between average practice scores and nurses' knowledge regarding BSE. It is found that the average score of practice is not significant among nurses with good knowledge (P>0.05).

Figure (1): Factors affecting regular performance of BSE among the studied nurses.

Figure (2): Levels of general knowledge studied nurses about breast self- examination.

Figure (3): Levels of breast self-examination practice among the studied nurses (192).

Figure (4): Methods of breast palpation among studied nurses.

Figure (5): Correlation between knowledge and practice scores among studied It illustrates that there is a negligible, positive insignificant correlation) (r = 0.113, P0.118), between total

knowledge and practice score of the studied nurses about BSE.

5.Discussion:

The current study aimed to assess nurse's practice regarding breast self-examination. The results of the study answered the study question as the current study assessed nurses' knowledge and practice regarding breast self-examination as well as, factors that affect nurses' practices were also determined.

Concerning the socio demographic characteristics of the studied nurses. The present study revealed that the age of the studied nurses ranged between 20 to 52 years, with mean age 32.06 ± 6.86 years. Nearly half of them graduated from technical institute of nursing and the majority of them were married, and had enough income. Also, More than two thirds of them not physically active and had medical health problems.

Concerning general knowledge of the studied nurses regarding breast self- examination, the present study reported that more than half of the studied nurses knew that the suitable time for BSE is one week after the menses and they performed BSE monthly by palpation only. Also, most of them knew that BSE is important for earl detection of breast cancer. These results were supported by **Abo Al-Shiekh etal. (2021)** who assessed knowledge and practice of female nurses regarding early detection of breast cancer in Gaza and found that more than half of the study participants were knowledgeable regarding importance of breast self-examination. Also, more than half of them knew methods and steps of practicing BSE, and most of them had heard about BSE procedure.

Inversely, these findings were contradicted with **Mihret etal. (2021**) who demonstrated that less than half of the respondents had ever heard about BSE. Less than one third of the study participants knew how to perform BSE, and less than half of them said that a girl should start BSE at the age of between 20 and 30. The most method used by the students during BSE was both inspection and palpation. This inconsistency could be accredited to variation in study population that most of the participants in the previous studies were health professions who were likely to have better knowledge and awareness towards BSE through their academic courses and trainings than non-health professionals.

Regarding factors affecting regular performance of BSE among the studied nurses, the present study revealed that nurses' forgetfulness, laziness, fear, and lack of time were the most factors that hinder nurses' regular performance of

BSE. The previous findings were supported by **Abdul-Lateef etal. (2019)** who observe female nursing students practice of breast self-examination in Mosal university and reported that lack of obligation, shortage of time, fear from results, shyness were the most common barriers and limitation against nurses performance of BSE.

Furthermore a study conducted by **Dadzi & Adam. (2019)** to identify women's knowledge and practice of BSE during their reproductive age in Ghana and reported that most of the participants provided various reasons and circumstances that hindered them from practicing BSE as proper techniques for breast self-examination was not well known, having no previous history of breast problems. Lack of time and privacy to perform BSE. Also, more than two thirds of the respondents of the respondents believed they did not need to self-examine their breast and they did not feel comfortable to self-examine their breast.

Similarly, a study conducted by **Sreedharan etal. (2010)** to determine breast self-examination practice among nurses in United Arab Emirates and found that the main reasons provided by nurses that affect regular practice of breast self-examination were that lack of time, forgetfulness and not having any family history of breast cancer so they not take care regarding BSE. Also, the previous findings were in an agreement with **Sujindra & Elamurugan, (2015)** who conducted a research to identify factors affecting nurses' practice of breast self-examination in India and found that lack of time, fear from results and laziness were the most common reasons that affect BSE practice among the study participants.

Concerning the first step of breast self-examination (inspection), the presents study revealed that about two thirds of studied nurses correctly inspect both breasts for symmetrical shape, size and inspect nipple & areola. More than half of them correctly inspect skin for any changes, inspect breast for any apparent masses and inspect arms. While, more than two thirds of them inappropriately inspect breasts in different positions. The previous results were consistent with **Lera etal. (2020)** who conducted a cross-sectional study in Ethiopia to assess the associated factors of breast self-examination and reported that more than half of the respondents inspect their breast for size, shape, any changes.

Similarly a study conducted by **Carlson etal. (2017)** to determine female students' awareness toward breast self-examination in Cameroon and found that about two thirds of the study participants inspect their breast for any mass, lump, or other changes during breast self-

examination procedure. This can be explained as inspection is the first step in breast self-examination and it is like alarm that grasp woman attention for any abnormalities so most of woman depend on this step before palpating their breasts.

As regards to the second step of breast self-examination (palpation), the current study revealed that the majority of the studied nurse's correctly palpated breasts by the palmer surface of their hands, palpated each quadrant and the axillary part. On palpation, most of them inappropriately verified any mass for site tenderness, size, and shape. While verification is not done for consistency, surface and mobility. Also, most of the studied nurse's correctly expressed the nipples for any discharge, examined the axilla for nodes and repeat the examination in the second breast.

The previous results were in an agreement with **Abo Al-Shiekh etal. (2021)** who carried out a research to determine female knowledge regarding breast self-examination and breast cancer in Gaza and reported that more than two thirds of the study participants palpated their breast and axillary part. Also, the participants correctly expressed the nipple for any discharge and palpate both breast at the same time. Moreover, a study conducted by **Dadzi & Adam. (2019)** supported the previous results as majority of the study participants palpated their breast and the axilla for any abnormalities. Most of them palpate both breast for masses, nodes, or any lump.

Furthermore, a study conducted by **Yakubu etal. (2014)** to assess nurses' practice of breast self-examination in Nigeria and reported that about two thirds of the participants correctly palpate the breast, express the nipple and palpate the axillary and supra clavicular parts to detect any abnormalities. In contrast with the previous findings, **Asmare etal. (2022)** who conducted a community based study to determine women's attitude, knowledge and practice toward breast self-examination in Gondar town, Ethiopia and illustrated that more than half of the study participants incorrectly palpated the both breast, not palpate the axillary lymph nodes, and not checked the breast tissue for the presence of abnormal mass. Also they not use different position during palpation. This disharmony between the previous study and the current study could be due to difference of level of education between both participants as the current study collected from health professionals and the other study collected from general population.

Concerning levels of the practice of the studied nurses about breast self-examination, the current study reported that about two thirds of the

studied nurses had a satisfactory level regarding inspection, while most of them had unsatisfactory level regarding breast palpation during breast self-examination procedure. These results were in the same line with **Al-Mulhital. (2018)** who conducted a study to determine practice of Saudi women toward breast self-examination and mammogram and reported that more than two thirds of the study participants had unsatisfactory level toward breast inspection and palpation. Furthermore, **Dadzi & Adam. (2019)** revealed that the majority of the study participants had un satisfactory level regarding breast self-examination especially during palpation.

On the other hand, this finding was lower than the studies conducted by **Asmare etal. (2022)** found that the respondents had a satisfactory level of practice toward breast self-examination. Also, **Ziuo etal. (2018)** who carried out a study to evaluate women's' awareness about breast self-examination in Lybia and revealed that the study participants had a satisfactory level regarding practice of breast self-examination. In addition a study conducted by **Abeje etal. (2019)** to determine the factors associated with breast cancer screening in Ethiopia anf found that more than have of the study population had a satisfactory level of breast self-examination practice. The possible justification might be due to difference between socio-cultural and economic status between the study populations.

Concerning the relation between nurses' knowledge and practice scores, the current study showed that there was not a significant relationship between average practice scores and nurses' knowledge regarding BSE as the average score of practice is not significant among nurses with good knowledge ($P>0.05$). This finding was in the same line with **Negeri etal. (2017)** who reported that there was no significant relationship between nurses' knowledge and practices scores. On the other hand, **Kissal & Kartal, (2019)** revealed that the good practice scores of BSE were higher among participants with higher knowledge regarding breast self-examination. In addition the present study results were in disharmony with **Negeri etal. (2017)** who illustrated that the female healthcare workers who had good knowledge on BSE were about three times more likely to practice breast self-examination than others with poor knowledge. Also, **Sani & Yau, (2018).** Who studied the relationship between woman's' knowledge and practice of breast self-examination in Nigeria and revealed that there was a significant positive relationship exist between the knowledge of BSE and the practice of BSE. This means that as the

knowledge of women on BSE increased the practice of BSE may likely increases

The previous contradicted studies explained these results as having knowledge could increase individuals' self-confidence and gained experience; and this prompts them to practice breast self-examination. But the observed disagreement in magnitude might be attributed to dissimilarity in sociodemographic and cultural characteristics of the respondents.

Finally, Evidence supports that women who correctly practice BSE monthly are more likely to detect a lump in the early stage of its development, and early diagnosis has been reported to influence early treatment to yield a better survival rate **(Mihret etal ., 2021)**. Health education and communication have been found to promote health seeking behavioral change with sufficient utilization and compliance to breast cancer prevention and screening strategies **(WHO, 2020).**

6.Limitation of the study:

There was a certain limitation that face the researcher during data collection process which was some participant's especially single unmarried nurses had an embarrassment to apply breast self-examination in front of the researcher. To overcome this concern, the research provide a breast simulator jacket for those nurses to perform breast self-examination while they wearing it. A breast simulation model like a jacket and made of a silicone, that extended from the lower neck to xiphiod process.

The simulation technique create an opportunities for those nurses to practice breast self-examination without any embarrassment An observational checklist was used to observe the actual nurses' performance of BSE while they wearing a breast simulator jacket and the researcher mark every steps in the data collection sheet as the same manner followed with other participants.

7.Conclusion

The current study concluded that, more than half of the studied nurses knew that the suitable time for BSE. Most of them knew that BSE is important for earl detection of breast cancer. Also, about two thirds of studied nurses correctly inspect both breasts for symmetrical shape, size and inspect nipple & areola and more than half of them correctly inspect skin for any changes, inspect breast for any apparent masses and inspect arms.

Furthermore, the majority of the studied nurse's correctly palpated breasts by the palmer surface, palpated each quadrant and the axilla and most of them inappropriately verified any mass for site tenderness, size, and shape. About two thirds of

them had a satisfactory level regarding inspection, while most of them had unsatisfactory level regarding breast palpation. In addition, there was a significant relationship between average scores of practice and nurses who had personal or family history breast tumors while, the average score of practice is not significant among nurses with good knowledge.

8.Recommendations:

Based on the study finding, the current study recommended the following:

- Training sessions including (simulator, videos, and films) should be designed to review the proper technique of BSE and allow nurses to demonstrate the practice correctly.
- Periodic breast examination campaigns should be provided to female health care workers especially who are considered at risk.
- Consider a specific day per month for breast examination inside our hospitals.
- Mass media campaigns in T.V, Radio & social media should be done to emphasize the importance of screening methods to safeguard the health of female health care providers.

Further researches is recommended to:

- Determine the effect of an educational intervention on nurses' performance of BSE.
- Address barriers that hinder nursing staff from regular performance of breast self-examination.
- Investigate the reasons for the gap between the knowledge of BSE and its practice.

9.Acknowledgement

10.Financial Support

11.Conflict of Interest

The author declared no conflict of interest.

12.References

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Table (1): Demographic characteristics of the studied nurses (192)

Characteristics	No.	%
Age		
• 20-	80	41.7
• 30-	89	46.4
• 40-	20	10.4
• 50+	3	1.6
Range: 20 – 52 years, Mean ± SD = 32.06 ± 6.86 years		
Education		
• Diploma	24	12.5
• Technical Institute	93	48.4
• Bachelor	72	38.5
• Post graduate	1	0.5
Marital Status		
• Single	23	12.0
• Married	155	80.7
	13	6.8

• Divorced	1	0.5
• Widow		
Income		
• Not enough	13	6.8
• Enough	178	92.7
• Enough and save	1	0.5
Residence		
• Urban	10	5.2
• Rural	182	94.8
Physical activity		
• Active	13	6.7
• Partially active	34	17.7
• Not active	147	76.6
Having Medical Problems		
• No	145	75.5
• Yes	47	24.5

Table (2): Reproductive history of the studied nurses (192)

Reproductive History	No.	%
Gravidity:		
• Non	24	12.5
• Primigravida	10	5.2
• Multigravida	158	82.3
Parity: (158)		
• One	10	6.3
• 2+	148	93.7
Living Children (158)		
• Non	3	1.9
• 1-2	111	70.3
• 3+	44	27.8
Breast Feed your Baby		
• Yes	155	80.7
• No	37	19.3
Duration of Breast feeding / Month (155).		
• < 6 months	49	31.6
• 6- 12 months	84	54.2
• 12-18 months	13	8.4
• More than 18 month	9	5.8
Using Contraceptives method used		
• Yes	138	82.3
• No	54	17.7
Types of Contraceptives (138)		
• Natural	5	3.6
• Hormonal	96	60.6
• Mechanical (IUD)	30	31.7
• Barrier	7	5.1
Duration of taking hormonal contraceptive / Year (96)		
• 1-3	18	18.6
• 4-6	59	61.6

• >6	19	19.8
Menopause		
• Yes	20	10.4
• No	172	89.6
Having Hormonal replacement therapy during menopause (20)		
• Yes		
• No	13	65
	7	35

Table (3): History of benign breast conditions among the studied nurses (192)

History of BBT	No	%
Personal history of BBT		
• Yes	37	19.3
• No	155	80.7
Types (37)		
• Fibrosis	8	21.6
• Adenosis	13	35.2
• Mastitis	6	16.2
• Breast cyst	4	10.8
• Fibro-adenoma	6	16.2
Family history of breast cancer (192)		
• Yes	23	12.0
• No	169	88.0
Relations (23)		
• Mothers	7	30.4
• Sisters	1	4.4
• Grand mothers	2	8.7
• Close relatives (Aunt & cousins)	13	56.5

Table (4): General knowledge of the studied nurses regarding breast self- examination (192)

General knowledge	No.	%
Suitable time of BSE		
• One week after Menses	109	56.8
• 2 weeks after menses	23	12.0
• Any time	28	14.6
• Don't know	32	16.7
Performance of BSE		
• Yes	122	63.5
• No	70	36.5
Frequency of performance of BSE (122)		
• Once/ month	112	58.3
• Any time	52	27.5
• Don't remember	28	14.6
Methods of BSE		
• By Inspection only	10	5.2
• By Palpation only	102	53.1
• By inspection and palpation	80	41.6
BSE is important for early detection of Breast cancer		
• Yes	189	98.4
• No	3	1.6

Table (5A): Nurses' practice of Breast Self-Examination (Inspection)

| A) Inspection	Done Correctly (2)		Done inappropriate (1)		Not Done (0)	
	No	%	No	%	No	%
1. Inspect both breast for symmetrical shape	139	72.4	51	26.6	2	1.0
2. Inspect both breast for size	139	72.4	51	26.6	2	1.0
3. Inspect nipple & areola for: (Shape, size, discharge or any abnormalities)	139	72.4	51	26.6	2	1.0
4. Inspect skin for any changes: (Dimpling, puckering, engorged veins, thickening, discolorations, ulceration, cancer and scares of previous operation).	128	66.7	61	31.8	3	1.6
5. Inspect breast for any apparent masses.	127	66.1	61	31.8	4	2.1
6. Inspect arms for: (Edema, distended veins and axillary lymph nodes).	122	63.5	64	33.3	6	3.1
7. Inspect in different positions:						
7a. Nurses hands rested on her thighs.	46	24.0	146	76.0	0	0.0
7b. The hands were firmly pressed onto the hips.	40	20.8	152	79.2	0	0.0
7c. The arms were raised up and both the palms were placed behind the head.	39	20.3	153	79.7	0	0.0
7d. The nurse leaned forwards.	39	20.3	153	79.7	0	0.0
7e. Finally, during lying down on the bed with a pillow under her chest	45	23.4	147	76.6	0	0.0

Table (5 B): Nurses' practice of Breast Self-Examination (palpation)

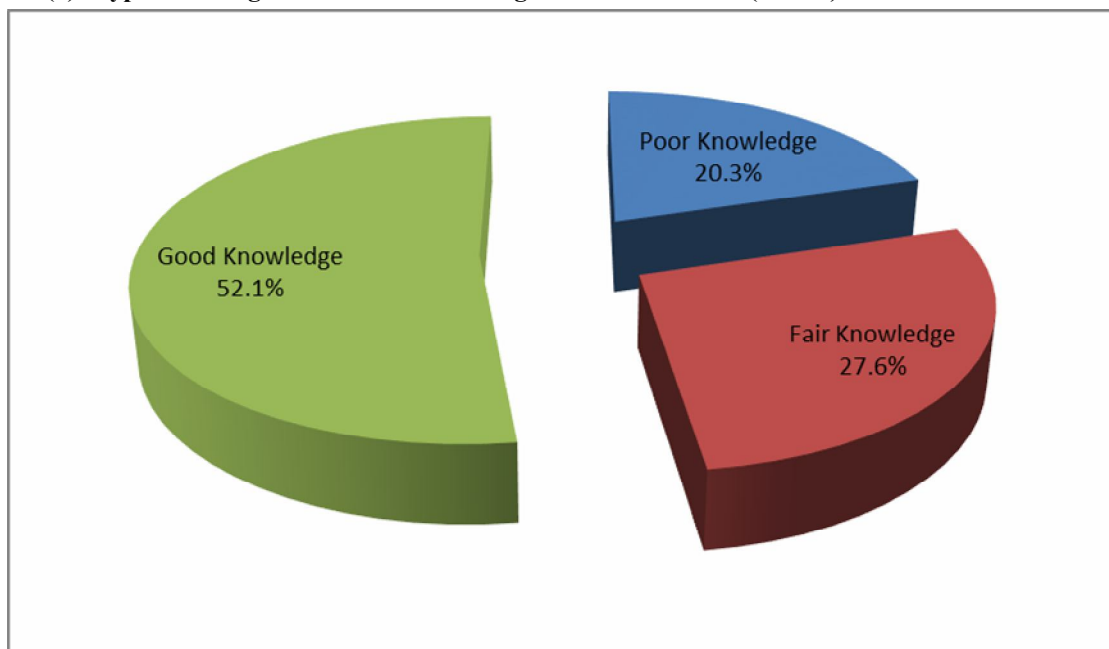| B) Palpation	Done Correctly (2)		Done inappropriate (1)		Not Done (0)	
	No	%	No	%	No	%
1. Palpate first by the palmer surface of fingers (the flat of the hand) then by tip of fingers.	161	83.9	30	15.6	1	0.5
2. Palpated each quadrant, the axillary tail and the axilla	160	83.3	31	16.1	1	0.5
3. Palpation method (Circular, zigzag manner, linear manner).	158	82.3	32	16.7	2	1.0
4- Any mass was verified for:						
4a. Site	3	1.6	186	96.9	3	1.6
4b. Tenderness	3	1.6	186	96.9	3	1.6
4c. Size	2	1.0	189	98.4	1	0.5
4d. Shape	1	0.5	190	99.0	1	0.5
4e. Consistency	3	1.6	44	22.9	145	75.5
4f. Surface	3	1.6	16	8.3	173	90.1
4g. Mobility	3	1.6	9	79.7	180	93.8
5. Expressed the nipple for any discharge	182	94.8	5	2.6	5	2.6
6. Examined the axilla for nodes: (nodes are palpated against the chest wall for their consistency, mobility, distribution and number).	181	94.3	9	4.7	2	1.0
7. Palpated the supra-clavicular fossae:						
7a. From front each at a time.	21	10.9	165	85.9	6	3.1
7b. From behind simultaneously	15	7.8	171	89.1	6	3.1
7c. Examined and compared	15	7.8	171	89.1	6	3.1
8. Repeat for the second hand as the same manner	185	96.4	7	3.6	0	0.0
9. Repeat the examination in the second breast at the same manner	190	99.0	2	1.0	0	0.0

Table (6): Relationship between average practice scores and nurses' knowledge regarding BSE (192)

knowledge level	No	Practice Score	Significance test
		Mean ± SD	
- Poor (< 50.0%)	39	36.00 ± 3.46	
- Fair (50.0 - < 75.0%)	53	36.85 ± 4.34	F= 1.374,
- Good (≥ 75.0%)	100	37.38 ± 4.36	P 0.256
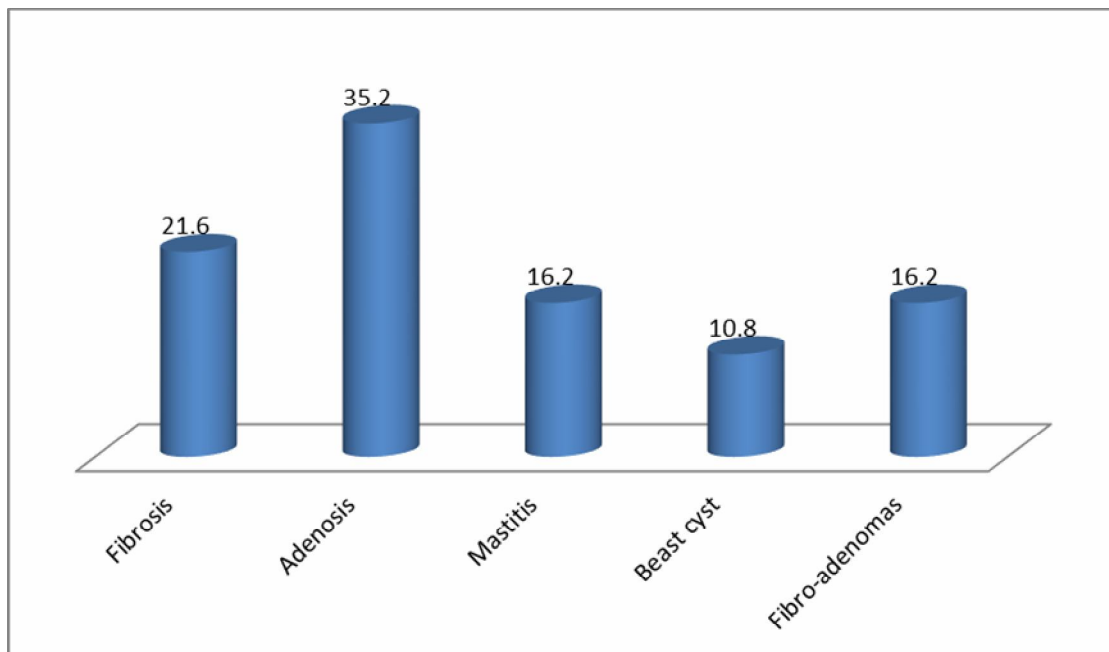
Figure (1): Types of Benign Breast tumors among the studied nurses (19.3%).

Figure (2): Levels of general knowledge of the studied nurses about breast self- examination.
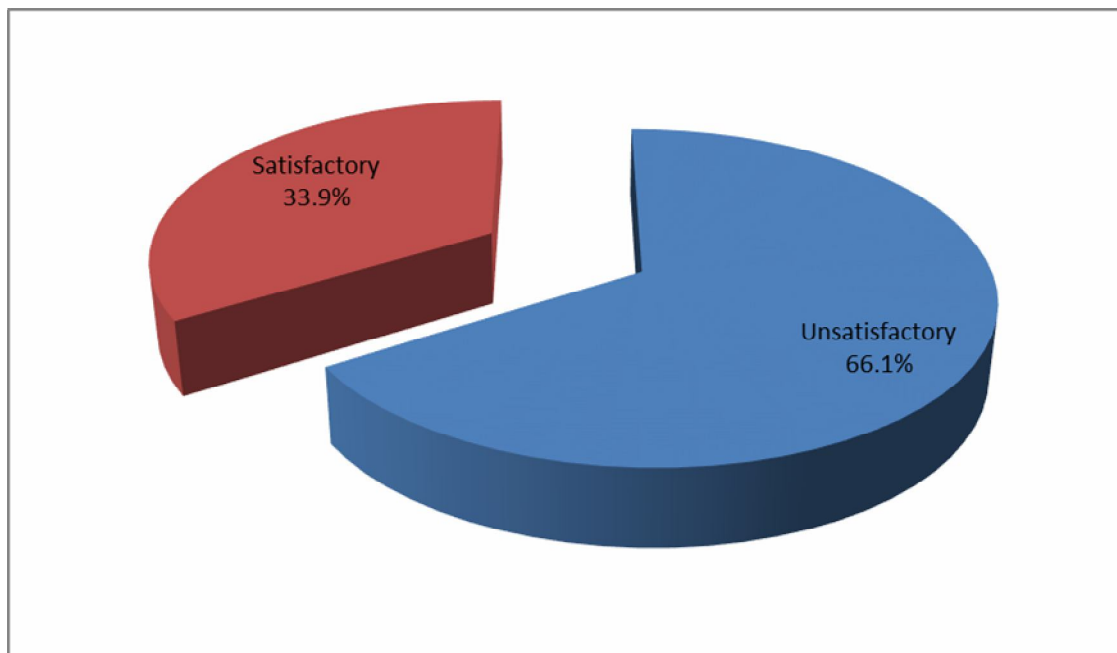
Figure (3): Levels of breast self-examination practice among the studied nurses (192).
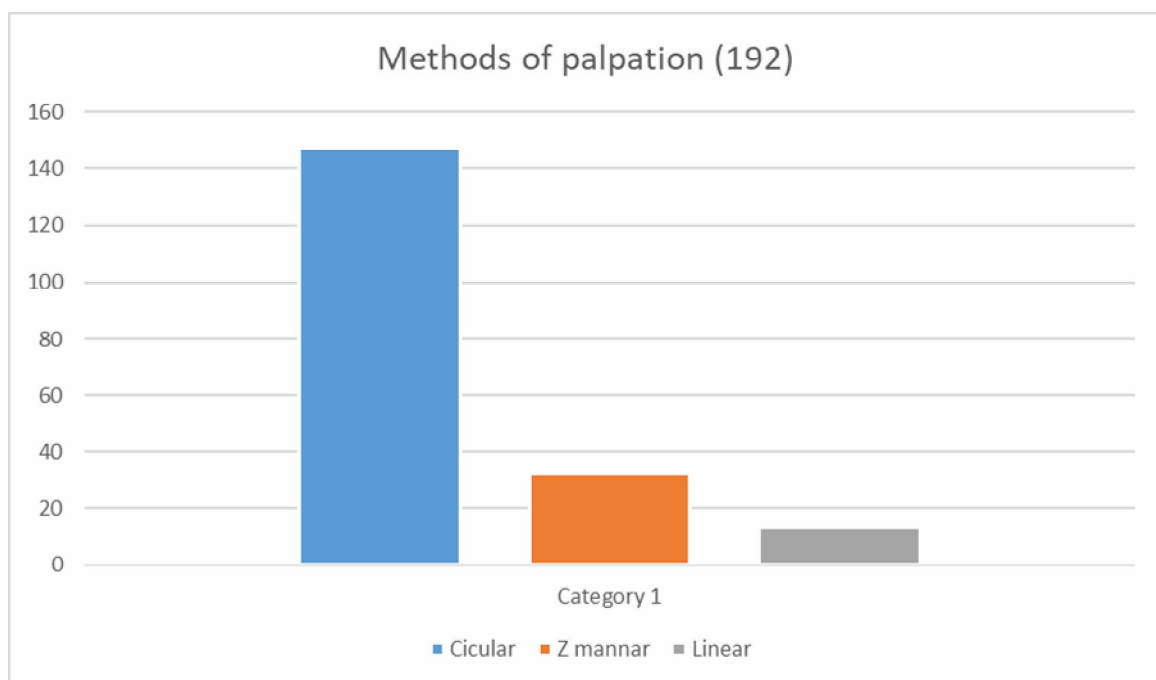

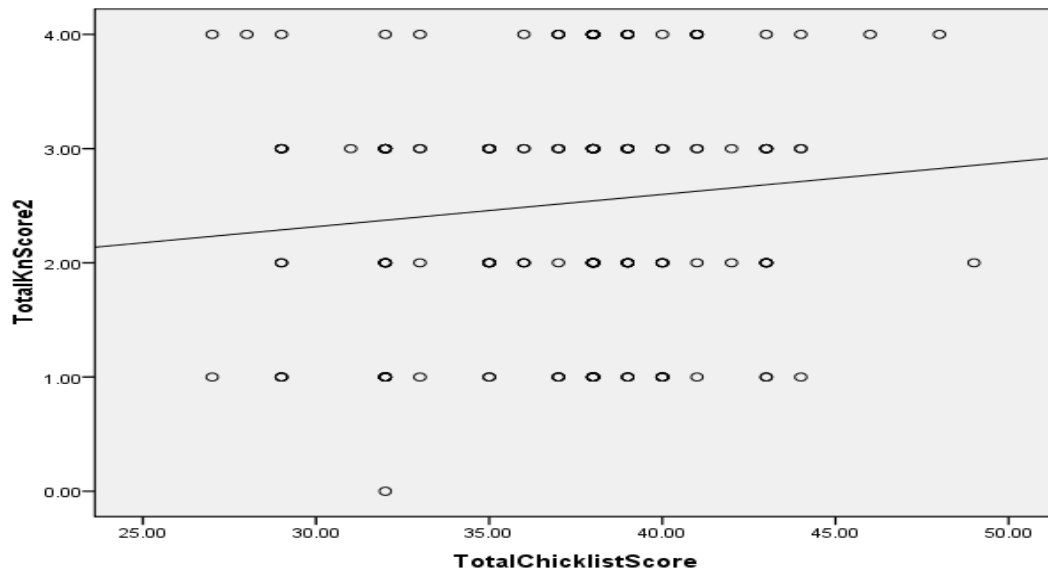**Figure (4): Methods of breast palpation among studied nurses.**

Figure (5): Correlation between knowledge and practice scores among studied nurses.