ISSN 2786-0183
Helwan International Journal for Nursing Research and Practice
Vol. 4, Issue 11, Month: September 2025, Available at: https://hijnrp.journals.ekb.eg/

Dissemination of Breast Self-Examination among Female Students with Disabilities

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Abstract:

Background: Breast self-examination is a way a female can check breasts by feeling for lumps or other changes. Breast self-exams can help a female learn how breasts normally look and feel and notice when changes occur. **The aim of the study:** was to disseminate of breast self-examination among female students with disabilities. **Research design:** Quasi-experimental research design used in the current study. **Setting:** The current study conducted at Intellectual School for the disabled female in Fayoum, city, Egypt. **Sample:** A convenient sample consists of fourty disabled female students. **Tools:** three main tools were used; **tool 1:** Interviewing questionnaire sheet, that included two parts, Part I: Socio demographic data, Part II: Practice assessment sheet, **tool 2:** Breast self-examination cheek list and **tool3:** Satisfaction assessment sheet. **Results:** the result of the current study showed that there was a statistically significant difference between studied female students regarding total practice toward breast self-examination. **Conclusion:** The practice of female students with disabilities were improved after the study. **Recommendation:** Improve health facilities to examine disabled female students and treat them if there are any breast problem according there disability.

Keyword: *Breast Self-Examination, Disabilities, Dissemination, Female Students,*

Introduction:

A breast self-exam is an early detection tool that uses a combination of physical and visual examinations of the breasts to check for signs and symptoms of breast cancer. The purpose of a breast self-exam is to become familiar with the way breasts normally look and feel. Knowing how breasts normally look and feel, also called breast self-awareness, will help identify any changes or abnormalities in breasts, such as a new lump or skin changes. Any changes in breasts discovered during a breast self-exam should be reported to healthcare provider right away ***(Hickey., 2022).***

A disability is any condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions). There are many types of disabilities, such as those that affect a person's; vision, movement, thinking, remembering, learning, communicating, hearing, mental health and social relationships. Although "people with disabilities" sometimes refers to a single population, this is actually a diverse group of people with a wide range of needs. Two people with the same type of disability can be affected in very different ways. Some disabilities may be hidden or not easy to see ***(Williamson et al., 2022).***

The main nursing role assessing female's compliance of performing self–breast examinations should entail not only if merely does the examination, but when is doing and how is doing. There is evidence-based practice that

ISSN 2786-0183
Helwan International Journal for Nursing Research and Practice
Vol. 4, Issue 11, Month: September 2025, Available at: https://hijnrp.journals.ekb.eg/

portrays the proper way to perform a self–breast examination. Females should be educated on the proper way to do a self–breast examination. The first steps should include the ideal time of month to perform the examination. This will allow females to know what is normal breast tissue and what is abnormal to aide in early detection of breast cancer. Utilizing the tools of self–breast examination, yearly mammograms and clinical breast examinations, together with consistency, are the best protection in detecting early breast cancers ***(Foster et al., 2023).***

Significance of the study:

According to WHO 2023,throughout the world there are more than 1,000 million people with disabilities, who constitute approximately 15% of the world's population (i.e., one in every 7 people is disabled). The prevalence of disability is higher in low-income countries than in high-income countries ***(WHO., 2023).***

It is estimated that the average prevalence rate among the female population aged 18 years and over being 19.2% compared to 12% for males, representing about 1 in 5 women. In Egypt, the Ministry of Health and Population announced that the inventory had reached 180,000 women suffering from disabilities as of the end of June 2024 ***(Mallory and Golshan., 2024).***

In 2024, 2.3 million women diagnosed with breast cancer and 670,000 deaths will be recorded worldwide. Breast cancer in Egypt is no more than in other countries of the world, and the incidence of breast cancer per year is 100 cases per 100,000 women, and Egypt is 50 cases per 100,000 women, which is half of the cases in America and Europe ***(Swartz., (2024).***

Aim of the study:

The aim of this study was to disseminate of breast self-examination among female students with disabilities through the following objectives:-

- Demonstrate the methods of breast self-examination to female students with disabilities.
- Provide educational sessions for the female students with disabilities regarding the technique of breast self-examination.
- -Evaluate the effect of the breast self-examination training.

Research Hypothesis:

- The practice of female students with disabilities will be improved after the educational sessions.
- Female students with disabilities will be satisfied after the study.

Subjects and methods:

I- Technical Items:

The technical items for present study includes research design, setting, subject and tools for data collection.

Research design:

A quasi-experimental design was used in the study (one group pre and post).

Setting:

The study was conducted at Intellectual School at Fayoum, City, Egypt.

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Helwan International Journal for Nursing Research and Practice
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Setting Description:-

The school is located on Al-Hadig area, next to the upper bridge, Al-Nahda Preparatory School for Girls, and Al-Azhari Institute for Girls, opposite the railway. The school consists of three buildings that one building includes all educational levels, from Initialization period, Vocational preparation departments and Industrial education departments and manager's office, second building includes library, room of artistic works and the social worker's office and the third build includes the restaurant.

Type of the sample: A convenient sample was used in the current study**.**

According to the following inclusion and exclusion criteria: -

- **Inclusion criteria:** Females more than 12 years old.
- **Exclusion criteria:** Females with mental retardation.

Sample size and technique: All available disabled female students in previous setting who their caregivers accept to participate in the study. 40 students, the study sample included four levels of education altahyia level, alhalqat aliabtidayiya level, aqsam alaedad almihnii level, and aqsam altilmidhat alsinaeia level; altahyia level included two years (5) girls, alhalqat aliabtidayiya level included six years (10) girls, aqsam alaedad almihnii level included three years (10) girls and aqsam altilmidhat alsinaeia level included threeyears (15) girls.

Tools for data collection:

Three tools used to collect the data.

Tool I: - Interviewing questionnaire sheet (Appendix II).

It consisted of three parts:-

Part1: Personal characteristics for female students: developed by the researcher this part consisted of characteristics of the participants as age, educational level, address and telephone number. **Question from (1-6).**
Designed by the researcher written in Arabic language in the form of multiple-choice questions.

Part2: This part concerned with practice of female students regarding breast self-examination as performing BSE, readiness learning BSE and explaining steps of BSE (pre and post). **Question from (26-33).**
Designed by the researcher after reviewing literature written in Arabic language in the form of multiple-choice questions.

Scoring system for practice:-

The questionnaire contained items related to the female students with disabilities practice assessment (8) items. Each item had two points (0 – 1), (1) for (Yes) and (0) for (No).
The total score of practice breast self-examination (8) items (Q26-33),
was evaluated by giving a score from (0-8). Classified as the following:

➢ Unsatisfactory: - ≤ 50% (0 - 4 points)

➢ Satisfactory: - > 50 % (5 - 8 points)

Tool II: Breast self-examination cheek list:-

It concerned with breast self-examination methods (pre and post). That consists of thirteen steps; front of the mirror consists of three steps, in the bathroom consists of three steps and the lying position consists of seven steps ***(National Breast Cancer Foundation., 2023).***
This tool was translated to Arabic language by the researcher.

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Scoring system for breast self-examination cheek list:-

The questionnaire contained items related to the female students with disabilities checklist application (13) items. Each item had two points (0 – 1), (0) for not done and (1) for done.
The total score of breast self-examination checklist (13) items (Q1-13),
was evaluated by giving a score from (0-13). Classified as the following:

➢Not done: - ≤ 50% (0 - 6 points)

➢ Done: - > 50 % (7 - 13 points)

Tool III: Satisfaction assessment sheet:-

This tool was used to assess disabled female student's satisfaction regarding the study. That is consists of twelve questions as following (The study was appropriate for your age, The study suitable, The study helped understanding breast self-examination, The scientific material was good, The study added new information, The study helped you implement breast self-examination, The study answered all the questions and The explanation style is good).

Scoring system for satisfaction:-

The questionnaire contained items related to the female students with disabilities satisfaction assessment (12) items. Each item had three points (0 – 2) (0) unsatisfied, (1) for to some extent and (2) for satisfied.
The total score of knowledge breast self-examination (12) items (Q1-12),
was evaluated by giving a score from (0-24). Classified as the following:

➢ Unsatisfied: - ≤ 50% (0 - 12 points)

➢ Satisfied: - > 50 % (13 - 24 points)

Tool validity:

The study tools were tested for validity by a jury of three experts in maternal and newborn health nursing – Faculty of Nursing- Helwan University to evaluate the items as well as the entire tool as being relevant and appropriate to test what wanted to measure. The experts were asked to evaluate the items on the study tools about relevance and appropriateness in terms of the construct and if the items adequately measure all dimensions of the construct. No modifications were needed.

Tool reliability:-

Reliability of the tools was tested to determine the extent to which the questionnaire items related to each other. Cronbach's Alpha in this study found to be 0.810 for practice, 0.789 for breast self-examination checklist and 0.877 for satisfaction.

Items	Cronbach's Alpha	P -value
Tool I part II: student's practice regarding breast self-examination.	0.810	0.001*
Tool II: Breast self-examination cheek list.	0.789	0.001*
Tool III: Satisfaction assessment sheet.	0.877	0.001*

Ethical consideration:

An official permission to conduct the proposed study obtained from the Scientific Research Ethical Committee Faculty of Nursing Helwan University. Participation in the study is voluntary and subjects given complete full information to female student's caregivers due to their abilities about the study and their role before signing the consent. The ethical considerations included explaining the purpose and nature of the study, stating the possibility to

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withdraw at any time, confidentiality of the information where it not be accessed by any other party without taking permission of the participants. Ethics, values, culture and beliefs was respected.

II- Operational items:-

Pilot study:

A pilot study was conducted on 10% (4) of the study sample, which were four students of the study sample from all stages. The pilot study aimed to determine the clarity, feasibility, and applicability of the study tools as well as the estimation of time needed for completing the questionnaires and to test the clarity of questions. The participants of the pilot study were included in to study sample because there is no modification was done.

Filed work:-

The fieldwork carried out over three months started at the beginning of February 2024 after obtaining all official permissions, completed in January 2024. The study sample included four levels of education altahyia level, alhalqat aliabtidayiya level, aqsam alaedad almihnii level, and aqsam altilmidhat alsinaeia level; altahyia level included two years (5) girls, alhalqat aliabtidayiya level included six years (10) girls, aqsam alaedad almihnii level included three years (10) girls and aqsam altilmidhat alsinaeia level included threeyears (15) girls. The study was implemented through three phases; preparatory phase, planning phase, implementation phase and evaluation phase.

Preparatory phase:-

- This phase taken about month for 8 visits, the researcher met the school's manager and staff to explain the educational content and methods used with female students.
- The researcher met the female student's caregivers to maintain oral approval to allow their females participate in the study and this due to their disabilities.
- Then the researcher attended two days weekly from 9 am to 1 pm and met female students to test learning skills.
- The researcher attended the daily lessons and daily activities with the female students to gain their trust.
- Data was collected from the students during free time in school day in the social worker's room, library, garden or any other suitable place.
- The researcher fill the questionnaire to gain the female student's information about the breast cancer and breast self-examination.
- Each questionnaire taken about 45 to 60 minutes, the researcher was met about 5 girls each visit.
- Sometimes, the researcher needed to meet female student's caregiver help in answering questionnaire questions because the caregiver can explain the question for them by their ways of communication.

Planning phase:

- The researcher contacted with the manager and teachers to detect the education methods to those female students.
- The researcher detected with the manager the days that attended to the school.
- The researcher prepared materials used with female students that helping in explaining the information.

Implementation phase:-

- This phase taken one month, the Researcher visited the study setting twice /week from 9:00 Am to 1 pm. At the first visit, met the female students to explain the aim of the study after known each other. The study sample was divided into three groups, first group included altahyia level and alhalqat aliabtidayiya level (15

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female students), the second group included aqsam alaedad almihnii level (10 female students), while the third group included aqsam altilmidhat alsinaeia level (15 female students).

- The study was implemented through lectures; each lecture took about 45-60 minutes. The lectures were repeated for each group on the same day.
- At the beginning of each lecture, the female students were oriented with the goal, objective, and content of the lecture.
- Each group was informed about the time of the next lecture at the end of the lecture.
- The subsequent lecture, started with feedback about the previous lecture and the objectives of the new lecture, using a booklet.
- At the end of each lecture; the female student's questions were discussed to correct any misunderstanding.
- The researcher needed to use group discussions with female student's caregivers to discuss their information about breast cancer and breast self-examination to provide them with all knowledge needed in order to help the female students to have the same knowledge from the researcher and the caregiver.

Evaluation phase:-

The purpose of the study evaluation is to measure the effectiveness concerning the objectives. This was done through a posttest for knowledge immediately. The researcher let the female students with disabilities to perform breast self-examination individually and measured again after an week to ensure from achieving the objectives of the study.

III-Administrative Item:

A written approval letter was obtained from the dean of the faculty of Nursing - Helwan University to the Center Agency for Public Mobilization and Statistics; and then from the Education Directorate- in Cairo to Fayoum Educational Administration, the approval letter included the aim of the study and the tools to obtain the permission and cooperation. The researcher then met the director of the school and explained the purpose and the method of the data collection of the study.

Statistical Analysis: -

Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 22. Graphics were done using the Excel program. Quantitative data were presented by mean (X) and standard deviation (SD). Qualitative data were presented in the form of frequency distribution tables, numbers, and percentages. Data was analyzed by chi-square ($\chi 2$) test. However, if an expected value of any cell in the table was less than 5, the Fisher Exact test was used (if the table was 4 cells), or the Likelihood Ratio (LR) test (if the table was more than 4 cells). The level of significance was set as a P value < 0.05 for all significant test.

Results

Table (1): Distribution of the female student's personal data (n=40):-

Items	Studied Students (n = 40)	
	N	%
Age (years):		
Range	13-24	
Mean ± SD	18.32±3.033	
• 12-18 yrs.	23	57.5
• 19-24 yrs.	17	42.5

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The place of residence according to the school:		
• Close to the school	4	10
• Far from the school	36	90
Going to school with:		
• Father	5	12.5
• Mother	29	72.5
• Other Family member	6	15
Going to school by:		
• Walking	5	12.5
• Family Car	4	10
• Car of the school	31	77.5
There is a landline phone:		
• No	38	95
• Yes	2	5
There is a mobile phone with What's App specific to the family:		
• No	35	87.5
• Yes	5	12.5
Family history of breast cancer:		
• No	40	100
Sources of information about breast cancer:		
• Mother	8	20
• School	7	17.5
• Television	20	50
• Social Media	5	12.5
Sources of information about breast self-examination:		
• Mother	9	22.5
• School	6	15
• Television	20	50
• Social Media	5	12.5

Table (1) Shows that, Mean±SD regarding age of the studied female students students 18.32±3.033, majority of the studied students living far from the school. About three quarters of the studied students (72.5%) going to school with their mothers, (77.5%) of them going to school by car of the school. The most of the studied female students (95%) don't have landline phone. The majority of the studied female students (87.5%) don't have a mobile phone with What's App specific to the family. All of the studied students (100%) don't have family history for breast cancer. Half of them (50%) getting information about breast cancer and breast self-exam from television.

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Table (2): Distribution of students' practice regarding breast self-examination within pre and posttest (n=40):-

**: Significant at P ≤ 0.05- x2 = chi-square test*

Items	Studied Students (n=40)				X2	P-Value
	Pre test		Post test			
	N	%	N	%		
Doing breast self-examination.						
• No	36	90	1	2.5	61.596	0.000*
• Yes	4	10	39	97.5		
Doing of breast self-examination regularly (monthly).						
• No	34	85	4	10	45.11	0.000*
• Yes	6	15	36	90		
Feeling ashamed from doing breast self-examination.						
• No	4	10	35	87.5	48.08	0.000*
• Yes	36	90	5	12.5		
Helping by any one for doing breast self-examination.						
• No	5	12.5	37	92.5	51.32	0.000*
• Yes	35	87.5	3	7.5		
Encouraging breast self-examination.						
• No	39	97.5	5	12.5	2.883	0.09
• Yes	1	2.5	35	87.5		
Readiness to learn the correct/optimal breast self-examination.						
• No	1	2.5	3	7.5	1.053	0.305
• Yes	39	97.5	37	92.5		
Explaining steps of breast self-examination.						
• No	33	82.5	4	10	42.28	0.000*
• Yes	7	17.5	36	90		
Difficulties to perform breast self-examination.						
• No	2	5	40	100	72.38	0.000*
• Yes	38	95	0	0		

Table (2): Indicates that, there is highly statistically significant difference between pre and posttest for the studied student regarding performance of breast self-examination (p- value= 0.000*) for all performance items except the steps of "Encouraging breast self-examination", and "Readiness to learn the correct/optimal breast self-examination" with (p-value = 0.09, and 0.305 respectively).

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Table (3): Distribution of students' practice regarding breast self-examination within pre and posttest (n=40):-

Items	Studied Students (n=40)				*X2*	*P-Value*
	Pre test		Post test			
	N	%	N	%		
The girl stands in front of a large mirror in a lit room and looks at the breasts. If they are not equal in size and shape, do not worry, this is normal.						
• Not Done	37	92.5	0	0	68.83	0.000*
• Done	3	7.5	40	100		
The girl puts her arms relaxed to the side and looks for any abnormal changes in size and shape different from the previous examination or any changes in the skin of the breast and looks for any wrinkles, ulcers or pigmentation.						
• Not Done	33	82.5	1	2.5	52.37	0.000*
• Done	7	17.5	39	97.5		
The girl checks the nipples and looks for any sores, peeling, or change in the direction of the nipple.						
• Not Done	35	87.5	4	10	48.08	0.000*
• Done	5	12.5	36	90		
In the bathroom:-						
The girl feels any changes with the help of soap and water, which will enable the hands to slide and helps by checking for any lumps or thickening in the area under the armpit.						
• Not Done	36	90	4	10	51.20	0.000*
• Done	4	10	36	90		
The girl raises the right hand behind her head and uses the left hand to squeeze from the nipple to the top of the breast, passing through the underarm to check for any lumps or secretions, using the pads of the fingers.						
• Not Done	36	90	4	10	51.20	0.000*
• Done	4	10	36	90		
The girl raises the left hand behind her head and uses the right hand to squeeze from the nipple to the top of the breast, passing through the underarm to check for any lumps or secretions, using the pads of the fingers.						
• Not Done	35	87.5	2	5	54.75	0.000*
• Done	5	12.5	38	95		
In the lying position:-						
The girl lies down and places a small pillow or folded towel under the right shoulder.						
• Not Done	37	92.5	4	10	54.48	0.000*
• Done	3	7.5	36	90		

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The girl places the right hand behind the head and the left hand on the upper part of the right breast.						
• Not Done	36	90	7	17.5	42.28	0.000*
• Done	4	10	33	82.5		
The girl considers the breast a clock that starts at 12 and moves towards 1 in small circular movements.						
• Not Done	35	87.5	7	17.5	39.29	0.000*
• Done	5	12.5	33	82.5		
The girl continues like this until the entire breast is felt and the upper outer areas that extend to the armpit are confirmed.						
• Not Done	33	82.5	8	20	31.27	0.000*
• Done	7	17.5	32	80		
The girl uses the pads of her fingers flat and feels if there are any changes.						
• Not Done						
• Done	35	87.5	7	17.5	39.29	0.000*
	5	12.5	33	82.5		
The girl gently presses the nipple inward, where it should move easily.						
• Not Done						
• Done	33	82.5	3	7.5	45.45	0.000*
	7	17.5	37	92.5		
The same girl repeats the steps on the other breast.						
• Not Done	35	87.5	3	7.5	51.32	0.000*
• Done	5	12.5	37	92.5		

**: Significant at P ≤ 0.05- x2 = chi-square test*

Table (3) demonstrates that, there is a statistically significant difference between pre and posttest for the studied student regarding practice of breast self-examination (p- value= 0.000*) for all practice steps.

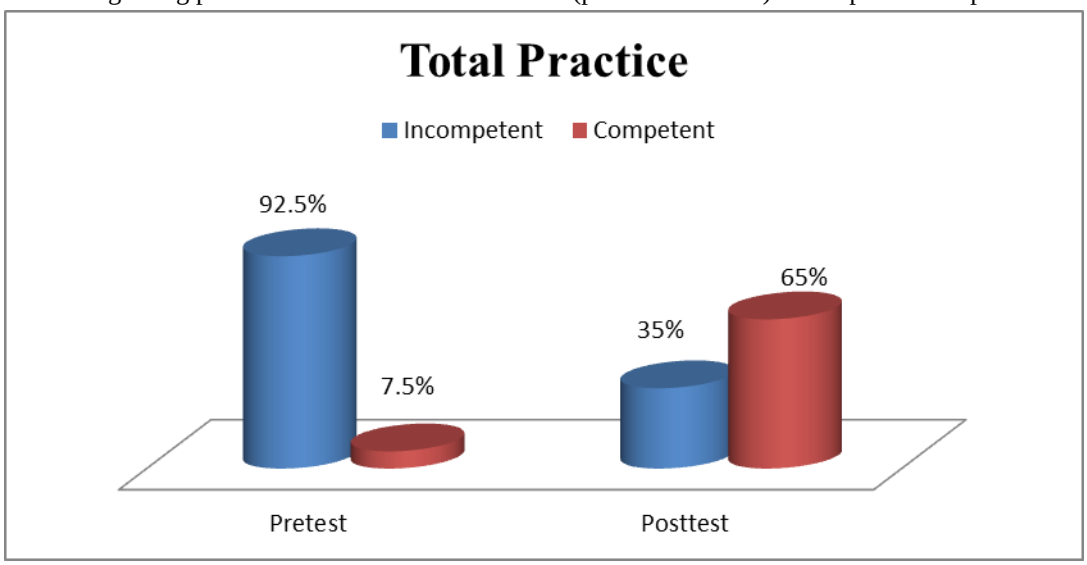

Figure (1): Percentage distribution of the studied sample related to total level of practice of breast self-examination

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Helwan International Journal for Nursing Research and Practice
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Figure (1) reveals that, only (7.5%) of the studied students have a competent level of total students' practice in pretest scores, while (65%) have competent level of practice in posttest scores, and (92.5%) of the studied students have incompetent level of total students' practice in pretest scores, while (35%) have incompetent level of practice in posttest scores

Table (4): Distribution of students' satisfaction after the study (n=40):-

Items	Studied Students (n=40)					
	Disagree		To some extent		agree	
	N	%	N	%	N	%
The study was appropriate for age.	6	15	5	12.5	29	72.5
The study helped understand breast self-examination.	5	12.5	7	17.5	28	70
The study added new information about how to perform a breast self-examination.	1	2.5	0	0	39	97.5
The study helped implement breast self-examination.	1	2.5	2	5	37	92.5
The study answered all the questions had in mind about breast self-examination.	5	12.5	4	10	31	77.5
Studying encouraged to learn and think instead of accepting facts.	1	2.5	6	15	33	82.5
Study added new knowledge and skills	1	2.5	10	25	29	72.5
You felt better after applying what learned from the study.	1	2.5	4	10	35	87.5
It is better to perform a breast self-examination on my own.	3	7.5	6	15	31	77.5
Conduct a self-examination with the help of others.	3	7.5	6	15	31	77.5
The scientific material is good.	3	7.5	4	10	33	82.5
The explanation style is good.	2	5	4	10	34	85

Table (4): Indicates that, majority of the studied students (97.5%) agree about the statement of "The study added new information about how to perform a breast self-examination", and about two thirds of them (70%) agree about the statement of "The study helped you understand breast self-examination".

Table (5): Relation between personal data of students and total students' performance:-

Items	Students' performance				*X2*	*P*-value
	Incompetent (n=37)		Competent (n=3)			
	No	%	No	%		
Age Category:						
• 12-18 yrs	22	59.5	1	33.3	0.775	0.379
• 19-24 yrs	15	40.5	2	66.7		
The place of residence according to the school:						
• Close to the school	4	10.8	0	0	0.360	0.548
• Far from the school	33	89.2	3	100		
Going to school with:						
• Father	4	10.8	1	33.3	1.628	0.443
• Mother	27	73	2	66.7		

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• Family member	6	16.2	0	0		
Going to school by:						
• Walking	5	13.5	0	0	0942	0.625
• Family Car	4	10.8	0	0		
• Car of the school	28	75.7	3	100		
Sources of information about breast cancer:						
• Mother	6	16.2	2	66.7	6.023	0.04*
• School	6	16.2	1	33.3		
• Television	20	54	0	0		
• Social media	5	13.6	0	0		
Sources of information about breast self-examination:						
• Mother	7	18.9	2	66.7	7.968	0.01*
• School	2	5.4	1	33.3		
• Television	20	54	0	0		
• Social media	8	21.7	0	0		

**: Significant at P ≤ 0.05- x2 = chi-square test*

Table (5): Shows that, there is a highly statistically significant difference between total students' performance and sources of information about breast cancer & sources of information about breast self-examination (p- value = 0.04* and 0.01*), while there is no statistically significant difference between total students' performance and age, place of residence, going to school &way of going to school (p- value = 0.379, 0.548, 0.443, and 0.625 respectively).

Table (6): Relation between studied students' practice and personal data:-

Variable	Total students' performance	
	R	P-Value
Age: • **12-18 yrs.** • **19-24 yrs.**	0.159	0.328
The place of residence according to the school.	0.065	0.691
Who helps you get to school.	-0.148	0.361
How to go to school.	0.129	0.429
Sources of information about breast cancer.	0.298	0.05*
Sources of information about breast self-examination	0.189	0.02*

**: Significant at P ≤ 0.05- r = correlation coefficient*

Table (6) shows that, there is highly statistically significant difference between total students' practice and sources of information about breast cancer & sources of information about breast self-examination (p- value = 0.05, and 0.02), while there is no statistically significant correlation between total students' practice and age, place of residence, going to school, and way of going to school, P-value = (0.328, 0,691, 0,361, 0.429, 0.062, and 0.242 respectively).

ISSN 2786-0183
Helwan International Journal for Nursing Research and Practice
Vol. 4, Issue 11, Month: September 2025, Available at: https://hijnrp.journals.ekb.eg/

Discussion:

The present study aimed to disseminate of breast self-examination among female students with disabilities. The findings of the current study showed that, Mean±SD regarding age of the studied students 18.32±3.033, majority of the studied students living far from the school. About three quarters of the studied students (going to school by their mothers, around three quarter of them going to school by car of the school. All of the studied students don't have family history for breast cancer. Half of them getting information about breast cancer and breast self-exam from television. This is may be because that the majority of them were like watching television and most information acquired from the television program.

Regarding distribution of students' practice assessment regarding breast self-examination within pretest, the current study indicated that, majority of the studied students doing the step of "Encouraging breast self-examination", and "Readiness to learn the correct/optimal breast self-examination". Most of them don't doing the step of "Doing breast self-examination", and "Feeling ashamed from doing breast self-examination".

From the researcher point of view, this might be because most of the students in this study could gather the information about breast self-examination from television and the main reasons could be lack of awareness in their preparatory backgrounds to perform breast self-examination.

The result consisted with ***Habtetsion et al., (2022)*** who studied "Self breast examination practice among female students of Tropical College of Medicine" in Addis Ababa and concluded that above half of the female students claimed to have practiced of breast self-examination. Out of these, the minority practiced it monthly as well as occasionally. Nearly more than quarter of participants perform one week after menstrual period while the minority of them on the first day of mensus.

Regarding distribution of students' performance regarding breast self-examination within posttest, the current study Indicated that, majority of the studied students doing the step of "Doing breast self-examination", most of them doing the step of "Performance of breast self-examination regularly (monthly).", and "Explaining steps of breast self-examination".

This result is in the same line with a systematic review and meta-analysis done by ***Seifu and Mekonen., (2021)***, who mentioned in general, urban resident tends to have positive attitudes toward and as well as better awareness about breast self-examination Also, ***Alamin., (2022)*** assessed the role of health education in raising university students' awareness in regard to the early detection of breast cancer. Two hundred female students from third and fourth-class faculties of law and economics, Al Zaem Al Azhari University, Sudan, showed a positive attitude towards participation in a training educational program on breast cancer.

Concerning distribution of students' practice regarding breast self-examination within pre and posttest, the study indicates that, there is highly statistically significant difference between pre and posttest for the studied student regarding practice of breast self-examination for all practice items except the steps of "Encouraging breast self-examination", and "Readiness to learn the correct/optimal breast self-examination.

The current study result supported by ***Goda et al., (2024)*** who reported that there was improvement of practice BSE among the studied girls after the program application with the presence of statistical significance, ***Koçak et al., (2019)*** who evaluated the effectiveness of BSE training for women with impaired hearing, and ***Albeshan et al., (2020)*** who carried out a study entitled "Can BSE and clinical breast examination along with ıncreasing breast awareness facilitate earlier detection of breast cancer in populations with advanced stages at diagnosis" that conducted in Turkey and found that all women could apply their BSE skills after the training they provided to deaf women using sign language.

ISSN 2786-0183
Helwan International Journal for Nursing Research and Practice
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Regarding distribution of students' performance regarding breast self-examination within pretest, the present study indicated that, majority of the studied students don't doing the step of "The girl stands in front of a large mirror in a lit room and looks at the breasts. If they are not equal in size and shape, do not worry, this is normal", and "The girl lies down and places a small pillow or folded towel under the right shoulder". While only the minority of them doing the step of "The girl stands in front of a large mirror in a lit room and looks at the breasts. If they are not equal in size and shape, do not worry, this is normal", and "The girl lies down and places a small pillow or folded towel under the right shoulder**".** From the researcher point view the cause of not practicing BSE was lack of information about BSE and they were not knowing how to perform BSE so the increased level of knowledge and practices within the studied group may have changed performance about breast self-examination.

This was consistent with ***Karayurt et al. (2020)*** who found that the minority of the students who performed BSE regularly every month. Moreover, this study was in agreement with ***Elshamy and Shoma., (2020)*** as only the minority of the nurses practiced BSE on a monthly basis. Also, ***Desoukya and Tahaa., (2023)*** found that none of the participants had ever practiced BSE.

The result is incompatible with ***Ngozika et al., (2021)*** who studied "Practice of Self Breast Examination among Female Teachers in Enugu South Local Governate Area, Enugu State" and showed that majority of the respondents; look through the mirror at the breast for any change, about half of the respondents did not do it with the finger pad, many did not practice SBE using vertical strip and circle pattern, also only few examined the inner half and lower quarter. Overall, majority had poor practice

Concerning distribution of students' practice regarding breast self-examination within posttest the current study indicated that, all of the studied students doing the step of "The girl stands in front of a large mirror in a lit room and looks at the breasts. If they are not equal in size and shape, do not worry, this is normal", and most of them doing the step of "The girl puts her arms relaxed to the side and looks for any abnormal changes in size and shape different from the previous examination or any changes in the skin of the breast and looks for any wrinkles, ulcers or pigmentation". While only one fifth of them don't doing the step of "The girl continues like this until the entire breast is felt and the upper outer areas that extend to the armpit are confirmed".

This result with same line with ***Parvin et al., (2022)*** The evaluation of the educational plan of breast self-examination of women referring to health centers and indicated that practice of BSE in the experienced group is significantly better than the control group, results of the another study indicated that the educational program significantly increased BSE practice,

Regarding distribution of students' practice regarding breast self-examination within pre and posttest demonstrated that, there is a statistically significant difference between pre and posttest for the studied student regarding practice of breast self-examination for all performance steps.

This finding was consistent with ***Alcan et al., (2021)*** evaluated the effects of BSE training on health beliefs and practices among relatives of nursing students, determined that more than one-third of women performed BSE before the training and the majority of them after the training and this difference was statistically significant. Also, a recent Egyptian study done by ***Mahmoud et al., (2020)*** evaluated the effect of the health belief model based education on breast cancer preventive behaviors conducted at the obstetrics outpatient clinic affiliated to Benha University Hospital, Egypt, mentioned that In the pre model implementation phase, more than one third of the studied women had satisfactory practice, then this percentage improved to three quarters post-model implementation.

From the researcher point of view the low level of practice of female students with disabilities regarding breast self-examination due to not exposure to this topic before this and they don't have ability to search about these topics due to their disabilities.

ISSN 2786-0183
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Conclusion:

Based on the results of the current study, can be concluded that the knowledge of female students with disabilities were improved after the study, moreover the female students with disabilities were satisfied with the study. The results of the current study supported the research hypothesis and achievement of the current study aim.

Recommendation:

In light of the present study findings, the following were recommended:

- Improve health facilities to examine disabled female students and treat them if there any breast problem according there disability.
- Provide annual lectures and group discussions for disabled female students peers regarding breast cancer and breast self-examination.

Further recommendations:

- Develop educational guidelines through different mass media such as YouTube channels.
- Create a comprehensive education booklet regarding breast cancer and breast self-examination.
- Persuade the Intellectual schools to conduct annual seminars regarding breast cancer and breast self-examination.
- Provide the intellectual schools nurses with sufficient, adequate, and accurate resources of knowledge on simple text and images about breast cancer and breast self-examination.

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