

Maternity nurses' performance regarding gynecological examination: Educational intervention

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Abstract

Background: Gynaecological examination is essential part of gynaecological care and is the most commonly performed procedure in gynaecological practice.

Aim: the present study was aimed to evaluate the effect of educational intervention on maternity nurses' performance regarding gynaecological examination.

Design: Aquasi-experimental design was utilized to fulfill the aim of the study.

Settings: The study was conducted at obstetric and gynaecological department and outpatient clinic at Benha university hospital.

A sample: Convenient sample of 62 maternity nurses were included in the present study.

Data: were collected through two tools: 1) an interviewing questionnaire sheet which includes two parts: a) nurse's personnel characteristics. b) nurse's knowledge regarding gynaecological examination. 2) Observational check list to evaluate the practice of maternity nurse.

Results: the result of present study proved that the mean age of maternity nurse were 29.6 ± 7.62 and more than three quarters (77.4%) of them had no previous courses regarding gynaecological examination. Additionally there were highly statistical difference between total knowledge and practical scores of maternity nurses at pre and post intervention as knowledge and practice score at pre intervention were (53.2% - 77.4%) respectively. That improved post intervention (66.1%-88.7) respectively.

Conclusion the educational intervention is highly improved maternity nurses' performance (knowledge & practice) regarding gynaecological examination.

Recommendations: The present study recommended that educational program regarding gynaecological examination should be provided for all obstetric health care givers.

Keywords: Maternity nurse, performance, Gynecological Examination, Educational intervention

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I. Introduction

Gynaecological examination (GE) is a routine part of physical examination in obstetrics and gynaecology. It is very important in the diagnostic work-up of gynaecological cancers, gynaecological infections (including sexually transmitted diseases), bleeding disorders, sexual function disorders, infertility, and family planning services [1]. It's the physical examination of the external and internal female pelvic organs it is called "bimanual exam" when two hands are used and "manual uterine palpation" It is frequently used in gynaecology. It can also be done under general anaesthesia [2].

Gynaecological examination is important part of improving every women health .It's essential and commonly performed procedure in gynecological practice. GE is physical examination of female genital organs [3].It can be divided into external and internal examination. Its helps in prevention of many undesired disease like cancers and other illness by allowing for early detection which is essential for effective preventive measures and treatment [4].

The importance of (GE) is primarily to screen for and early diagnose and detection of diseases and abnormalities. Also to provide education about gynaecological issues and reassure the patient about normal, healthy anatomy, to give a proper information and confidential answers to any questions concerning with sex , sexuality and changing body ,prevention from any reproductive problems, gynaecological examination include external and internal vaginal examination , bimanual examination and pap smear [5].

Gynaecological examination during pregnancy is similar to the exam for non-pregnant women. One difference is that more attention is given to the uterus and cervix. The growth of the uterus is measured each visit. As the due date approaches, the assessment of the cervix will indicate whether labour has begun or is progressing. Much time is spent determining the health of the fetus. A normal finding during the exam on the

pregnant woman is that the vagina has a bluish tinge. If a bluish tinge is observed in the non-pregnant women, this is a sign of hypoxia [2].

During adolescents gynaecological examination can be done for a complete screening pelvic examination. Adolescent women are at a higher risk for STIs and pelvic inflammatory disease (PID) and are physiologically at risk due to an immature cervix and an increased surface area for microorganisms to infect tissue. PID is a leading cause of reproductive health problems. GE is a crucial part of the medical evaluation [5]. It's very important to perform GE many times in every woman's life that used in the estimation of women's reproductive health [6]. It should be done as annual comprehensive basis in all patients aged 21 years old [7].

Gynaecological examination should be done with the woman in a lithotomy position. The woman should be gowned and should have an empty bladder. Privacy should be assured and the woman should be fully informed by the examiner. Chaperones are commonly used during the examination. However, many women declare feelings or experiences of fear and anxiety about pelvic examination the health care provider should be sure the patient is as relaxed as possible and should take a few minutes to describe the procedure and allow the patient to prepare herself. The examiner should glove and should touch the patient, reassuring the woman prior to each phase of the pelvic examination [8].

Women should maintain annual visit for gynaecological examination, which is important for both health maintenance and preventive medicine reasons. The aim from this visit is to maintain the woman in the best health and functional status possible, to promote high-quality longevity, and to aid in early detection of disease. Long-term continuity of care may improve health status [9].

Before performing a gynaecological examination, the examiner must have a basic understanding of female pelvic anatomy, which the genital system consists of the external genitalia (usually known as the vulva). The vulva is made up of the labia majora, labia minora, clitoris, hymen, and vulvar vestibule and the internal genitalia comprising of (the vagina, uterus, uterine appendages and the ovaries. The organs in close relation are the bladder, urethra, rectum, anus and the sigmoid colon [9].

Nurses have a pivotal role in preparing women before, during and after gynaecological examination, which nurse begins with collect complete history, this should be done while woman is fully clothed and keeping privacy by avoid any interruptions and choose quite room for examination [10]. Reassurance for woman should be taken through active listening and staying calm and smile, answer to woman's questions as possible to decrease stress. The nurse must discuss the result of examination, arrange another opportunity for follow up and provide holistic information advice and support to meet woman's needs [11].

Significance of the study:

The important part of improving every woman's health is having regular gynaecological examination. Its play an important role in early diagnosis of gynaecological disorders that threat women's life. In our Egyptian society, each woman across life span should be encouraged to schedule their visits for gynaecological examination. So the examination should be performed in a way that gives it a positive experience for women. The examination could be a positive experience if health care givers provide proper care during the examination [12]. Previous studies reported that the health care providers, who have proper knowledge and practice, will have a positive effect on reducing anxiety among women undergoing gynaecological examination [13]. For our knowledge there is no previous study conducted in conducted at faculty of nursing at obstetrics and gynaecological department to investigate the effect of educational intervention on maternity nurses' performance regarding gynecological examination.

1.1 Aim of the study:-

Aim of the present study was to evaluate the effect of educational intervention on maternity nurses' performance (knowledge and practice) regarding gynaecological examination.

1.2 Research hypothesis

An educational intervention will improve maternity nurses' performance (knowledge & Practices) regarding gynaecological examination.

2. Subject and Methods

2.1 Research Design

Quasi-experimental design time series, pre/post-test design), single group is studied

2.2 Research Setting

The study was conducted at Obstetrics & Gynaecological Department and outpatient clinic in Benha University Hospital affiliated at Benha city in Qalioubia Governorate. This setting was particularly chosen

because presented a comprehensive medical treatment and the availability of maternity nurses providing nursing care , support and follow up to achieve health and wellbeing for women.

2.3 Subjects: A convenient sample of total 62 maternity nurses working at obstetric & gynecological department and outpatient clinic at Benha university hospital were included in the present study.

2.4 Tools of Data Collection: Two Tools Was Used to Collect Data

2.4.1 Tool I- A Structured interviewing questionnaire: It was designed by the researchers after reviewing related literature. The sheet is written in simple Arabic language in the form of close and open ended questions and consisted of two parts:

Part (1): Nurse's demographic data such as age, level of education, Residence, marital status, years of experience, special courses regarding gynaecological examination.

Part (2): Nurse's knowledge regarding gynaecological examination .It included 14 items includes. (definition, indications, frequency, purpose, proper age, proper time , complications from ignoring GE, techniques of GE and types of GE, instruments & supplies used in examination, ethical considerations, role of nurse before, during and after examination).

Scoring system: Each questions was assigned a score of (2) given when the answer was completely correct, while a score (1) was given when the answer was incompletely correct, and (0) was given when the answer was incorrect .The total score of each section was calculated by summation of the scores of its items. The total score for the knowledge of a participant was calculated by the addition of the total score of all sections. Total knowledge score was classified as the following:

- poor <60% of total knowledge score
- average 60-<75% of total knowledge score
- Good \geq 75% of total knowledge score

2.4.2 Tool II-maternity nurse practice observational checklist: -. It was adopted from (El Shafei, 2017). It was concerned with assessing the maternity nurse practice regarding gynaecological examination . It divided into (3) procedures which consisted of (55items) that identify the steps of role of maternity nurse in gynaecological examination during different stages as: pre examination it include (15 steps), during examination include (13 items), and after examination include (11 items). **Scoring:** Each item was scored as (0) for not done, and (1) for done. Then summing up the scores of the items in each procedure and the overall scores gave practice score. Total practice score was classified as the following:

- Satisfactory practice \geq 75% of total practice score.
- Unsatisfactory practice < 75 % of total practice score.

2.5.1 Approval:

An official permission was obtained from the hospital authorities in the identified setting to collect the necessary data.

2.5.2 A Pilot study:

After the development of tools, a pilot study was carried out on 10% of the studied subjects (6) maternity nurses who weren't excluded from the main study sample. As no modification was done **the purposes of the pilot study were to:**

- Ascertain the clarity and the applicability of the tools
- Ascertain the relevance and content validity of the tools.
- Estimate the time needed to complete the sheet.
- Detect any problem peculiar to the statements such as sequence and clarity that might interfere with the process of data collection. The necessary changes were undertaken.

The Results of the pilot study:

After conducting the pilot study, it was found that:-

- he tools were clear and applicable; however, few words were modified
- Tools were relevant and valid.
- No problem that interferes with the process of data collection was detected.
- Following this pilot study the tools were made ready for use.

2.5.3 Validity

Content validity was done to assure that the utilized tools measure what it was supposed to measure. Tools developed by the researchers were examined by a panel of five experts to determine whether the included items clearly and adequately cover the domain of content addressed.

2.5.4 Reliability

Test-retest was repeated to the same sample of maternity nurses on two occasions and then compares the scores The Cronbach's coefficient alpha. Reliability of proposed tools was 0.76. For knowledge and the internal consistency of practice was 0.82 .for practice.

2.5.5 Ethical Considerations

An Informed consent was obtained from each maternity nurse at the first session. Each maternity nurse was informed that the participation in the study was voluntary and can withdraw at any time.

2.5.6 Procedures

The study was carried out through the following phases: Interviewing and assessment phase (pre-test), designing of the program phase, planning phase , implementation of the program phase(conducting education program), and evaluation of program phase (post-test). These phases were carried out from beginning of September 2016 to the end of February 2017, covering along a period of six months. The previous mentioned settings were visited by the researchers two days/week (Monday and Wednesday) from 10.00 am to 2.00 pm.

Initial assessment it consist of two parts:-

A-Performance checklist:

It was filled by the researcher using observation checklist for gynaecological examination to assess maternity nurses, practice pre implementing training program , Checklist used two times (per -post test), The maternity nurses were unaware that they were being observed , Each observation sheet was filled immediately while observing the maternity nurse when performing procedure. The average time needed for the completion of each observational checklist took about (10 – 15) minutes.

B-Questionnaire sheet:

This phase encompassed interviewing to collect socio-demographic characteristics, baseline data about maternity nurses, knowledge regarding gynaecological examination, it was used two times (pre- post test), after completing observation checklist for all maternity nurses The interviewing questionnaire (pre test) administered to each maternity nurse individually using the personal interview method and asked to respond to interview questionnaire , it was directed in simple Arabic language and answers were recorded immediately . At the beginning of interview the researcher greeted the maternity nurse, introduced herself to each maternity nurse included in the study, explained the purpose of the study and provided the maternity nurse with all information about the study (purpose, duration, and activities) and take oral consent. selecting the morning shift as there are a high rate of maternity nurses and avoid shortage of staff nursing during evening shifts where rate of maternity nurses is limited, Average time for the completion of each maternity nurse interview was around (15-20 minutes), This period of pre-tests (knowledge and practice) took one month .

Planning phase:

According to the needs which be identified in the assessment phase and in review of the related literature the researchers developed educational intervention guidelines was developed in simple Arabic language based on the opinion of experts, the result of the maternity nurses knowledge, performance, the related literature It clarified the areas of common deficiency in nurses' knowledge related to gynaecological examination as definition, indications, role of nurse before, during and after examination, times, frequency, purpose, proper age, complications, techniques and types of gynaecological examination, instruments&suppliesused in examination, ethical considerations for gynecological examination).

Implementation phase:

After that, the theoretical and practical parts of the educational intervention were discussed and demonstrated through a group discussion sessions, six session used for each group. Nurses were divided into small group (6-7 nurses / session) each group perceived the program content using the same teaching strategies and handout. The total number of groups was (10 groups) and total time for achieving the teaching guideline was (6 hours) for each group under the study. Each session lasted for less than one hour. Explanation of the intervention guidelines using power point presentation, discussion, demonstration and redemonstrations were also conducted during each session. Implementation of teaching guidelines content which included six sessions

that divided into two types of sessions: **Educational sessions:** were carried out (2) sessions. They Included the following; - One session was given to cover knowledge about; the general and specific objectives of guidelines, Definition of gynecological examination , importance and indications, of gynecological examination, times, frequency, purpose, proper age, complications of ignoring GE, techniques and types of gynecological examination, instruments&suppliesused in examination – One session was given to cover knowledge about different role of nurse before, during and after examination .**Training sessions:** were carried out in four sessions, to cover practical part of gynecological examination :

Evaluation phase

During this phase, the effect of educational program was evaluated by using the same format of tools which used before the program implementation. Evaluation of maternity nurses, knowledge using tool I through interview with maternity nurses after implementation guideline sessions, (post-test). Evaluation of maternity nurses, performance was observed by the researcher using tool II, (post-test). Comparison of each maternity nurse, findings with the preceding one to evaluate the effect of implementing educational intervention on maternity nurse's performance (knowledge-practice).

Statistical analysis

Data were verified prior to computerized entry. The Statistical Package for Social Sciences (SPSS version 20.0) was used for that purpose, followed by data analysis and tabulation. Descriptive statistics were applied (e.g., frequency and percentages).Test of significance (chi-square) was used to test the homogeneity of the outcome variables between the groups and to test the study hypothesis. Pearson correlation coefficients were used. A statistically significant difference was considered at p-value $p \leq 0.05$, and a highly a statistically significant difference was considered at p-value $p \leq 0.001$.

II. Results

Table (1): Distribution of personnel characteristics of the studied nurses (n=62).

Socio-demographic characteristics	no	%
Age		
-20<30 years	26	41.9
-30-40 years	27	43.5
- >40 years	9	14.5
Mean ±SD	29.6±7.62	
Education level		
-Diploma	17	27.4
-Bachelor in nursing	13	21.0
-Technical institute	32	51.6
Residence		
-Rural	30	48.4
-Urban	32	51.6
Marital status		
-Unmarried	24	38.7
-Married	38	61.3
Years of experience		
-Less than5 years	15	24.2
-5-10 years	41	66.1
->10 years	6	9.7
If take any special courses of gynaecological examination		
-yes	14	22.6
-No	48	77.4

Table (1): reveals that more than two fifth (43.5%) of the studied nurse were in the age group of (30-40)years old. And half of them (51.6%) of them had technical institute in nursing. In addition half of them (51.6%) were live in urban area and two thirds (61.3%) were married while more than two thirds (66.1%) had years of experience from 5-10 years . also more than three quarters (77.4%) of them hadn't received any special courses of gynaecological examination .

Table (2): Distribution of studied nurse's general knowledge regarding gynaecological examination pre and post intervention (n=62).

Knowledge	Pre intervention						Post intervention						X ²	p-value
	Complete correct		Incomplete correct		incorrect		Complete correct		Incomplete correct		incorrect			
	no	%	no	%	no	%	no	%	no	%	no	%		
Definition of GE	12	19.4	34	54.8	16	25.8	39	62.9	20	32.3	3	4.8	18.6	0.001
Appropriate time for GE	20	32.3	29	46.8	13	21.0	43	69.4	13	21.0	5	8.1	17.1	0.001
Frequency of GE	21	33.9	25	40.3	16	25.8	49	79.0	10	16.1	3	4.8	26.5	0.001
Proper age for GE	8	12.9	32	51.6	22	35.5	46	74.2	12	19.4	3	4.8	51.1	0.001
Purpose of GE	19	30.6	28	45.2	15	24.2	39	62.9	22	35.5	0	0.0	22.3	0.001
Types of GE	17	27.4	33	53.2	12	19.4	39	62.9	20	32.3	3	4.8	17.2	0.001
Methods of GE	18	29.0	31	50.0	13	21.0	42	67.7	17	27.4	3	4.8	19.9	0.001
Indications of GE	16	25.8	29	46.8	17	27.4	41	66.1	21	33.9	0	0.0	29.2	0.001
Ethical Consideration for GE	20	32.3	31	50.0	11	17.7	42	67.7	20	32.3	0	0.0	21.1	0.001
Instrument & supplies for GE	14	22.6	30	48.4	18	29.0	39	62.9	20	32.3	3	4.8	24.5	0.001
Complication from ignoring GE	11	17.7	37	59.7	14	22.6	43	69.4	13	21.0	5	8.1	33.4	0.001

Table (2): Shows that, there was a highly statistically significant difference of studied nurses general knowledge related to gynaecological examination between the pre and post intervention phases (p<0.001).

Table (3): Distribution of studied nurse's knowledge regarding their role of gynaecological examination pre and post intervention (n=62).

Items	Pre intervention						Post intervention						X ²	p-value
	Complete correct		Incomplete correct		incorrect		Complete correct		Incomplete correct		incorrect			
	no	%	no	%	no	%	no	%	no	%	no	%		
Before examination														
Prepare instruments and room	3	4.8	22	35.5	37	59.7	49	79.0	10	16.1	3	4.8	74.0	0.001
Take full history from women	3	4.8	14	22.6	45	72.6	46	74.2	12	19.4	4	6.5	72.1	0.001
Keep women reassurance	4	6.5	20	32.3	38	61.3	50	80.6	10	16.1	2	3.2	74.9	0.001
Explain procedures with women	0	0.0	25	40.3	37	59.7	48	77.4	11	17.7	3	4.8	82.3	0.001
Use simple language	9	14.5	18	29.0	35	56.5	43	69.4	19	30.6	0	0.0	57.2	0.001
Ensure good lightening	9	14.5	20	32.3	33	53.2	39	62.9	23	37.1	0	0.0	51.9	0.001
Put women in suitable position	11	17.7	29	46.8	22	35.5	40	64.5	19	30.6	3	4.8	33.0	0.001
During examination														
Help physician & keep sterile instrument	6	9.7	22	35.5	34	54.8	49	79.0	10	16.1	3	4.8	64.0	0.001
Keep women in appropriate position	11	17.7	21	33.9	30	48.4	47	75.8	12	19.4	3	4.8	46.8	0.001

Use active listening	9	14.5	18	29.0	35	56.5	43	69.4	19	30.6	0	0.0	57.2	0.001
Provide emotional support to women	3	4.8	21	33.9	38	61.3	39	62.9	20	32.3	3	4.8	60.7	0.001
After examination														
Help women to wear	8	12.9	18	29.0	36	58.1	41	66.1	21	33.9	0	0.0	58.4	0.001
Discard equipment and sterile it	7	11.3	14	22.6	41	66.1	42	67.7	20	32.3	0	0.0	67.0	0.001
Explain methods of treatment	8	12.9	15	24.2	39	62.9	42	67.7	18	29.0	2	3.2	56.7	0.001
Help women to ask questions	5	8.1	19	30.6	38	61.3	45	72.6	12	19.4	5	8.1	58.9	0.001
Schedule periodic follow up visit	5	8.1	20	32.3	37	59.7	49	79.0	10	16.1	3	4.8	68.0	0.001
Provide health education	6	9.7	18	29.0	38	61.3	48	77.4	14	22.6	0	0.0	71.1	0.001

Table (3): Shows that, there was a highly statistically significant difference of studied nurses general knowledge related to their role of gynaecological examination between the pre and post intervention phases ($p < 0.001$).

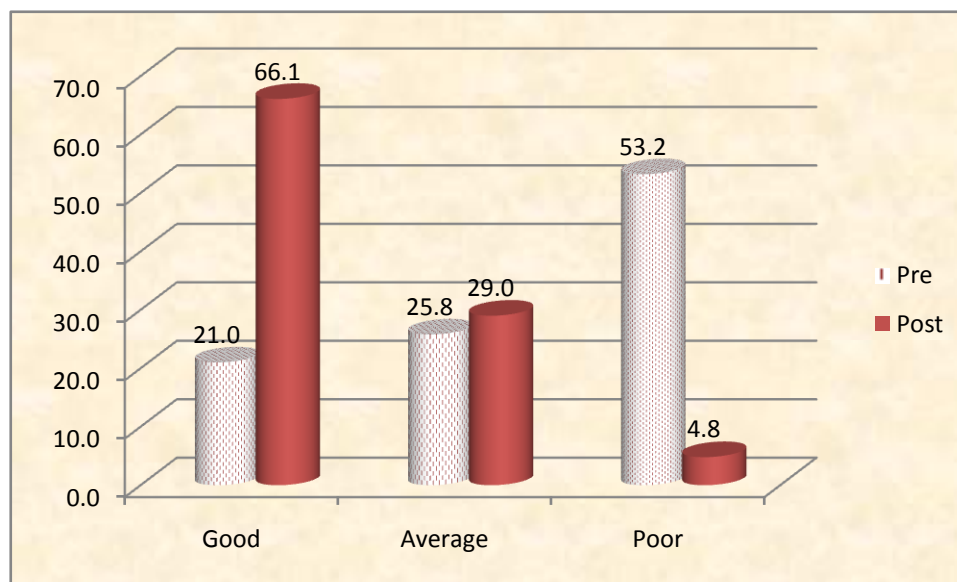


Figure (1): Distribution of total knowledge score of the studied nurses at different phases of the intervention.

Table (4): Distribution of studied nurses regarding their practices before GE examination at different phases of the intervention (n=62)..

Practice before GE examination	Pre intervention				Post intervention				X2	p-value
	Done		Not done		Done		Not done			
	no	%	no	%	no	%	no	%		
Great the women	22	35.5	40	64.5	55	88.7	7	11.3	10.1	0.001
Offer the women a seat	18	29.0	44	71.0	60	96.8	2	3.2	60.9	0.001
Take complete history	18	29.0	44	71.0	56	90.3	6	9.7	48.3	0.001
Calm the women	29	46.8	33	53.2	56	90.3	6	9.7	27.2	0.001
Explain the procedures	20	32.3	42	67.7	56	91.9	5	8.1	46.9	0.001
Listen to women attentively	29	46.8	33	53.2	56	90.3	6	9.7	27.2	0.001
Use simple language	25	40.3	37	59.7	52	83.9	10	16.1	8.95	0.001
Use active listening	18	29.0	44	71.0	55	88.7	7	11.3	45.5	0.001
Ask the women to void	31	50.0	31	50.0	60	96.8	2	3.2	34.7	0.001
Take menstrual history	29	46.8	33	53.2	57	91.9	5	8.1	29.7	0.001
Prepare women for physical examination	24	38.7	38	61.3	56	90.3	6	9.7	36.0	0.001
Make sure good light	23	37.1	39	62.9	57	91.9	5	8.1	14.9	0.001
Close window	18	29.0	44	71.0	55	88.7	7	11.3	45.5	0.001
Take women to suitable bed	31	50.0	31	50.0	60	96.8	2	3.2	34.7	0.001

Table (4): Indicates that, there was a highly statistically significant difference between studied nurses' practice before gynaecological examination between the pre and post intervention phases ($p < 0.001$).

Table (5): Distribution of studied nurses regarding their practices during GE examination at different phases of the intervention (n=62).

practice during examination	Pre intervention				Post intervention				X2	p-value
	Done		Not done		Done		Not done			
	no	%	no	%	no	%	no	%		
Hand washing	21	33.9	41	66.1	52	83.9	10	16.1	32.0	0.001
Keep privacy	31	50.0	31	50.0	54	87.1	8	12.9	19.7	0.001
Wear gloves	30	48.4	32	51.6	55	88.7	7	11.3	23.3	0.001
Raise examination table	23	37.1	39	62.9	60	96.8	2	3.2	22.0	0.001
Keep women in suitable position	24	38.7	38	61.3	57	91.9	5	8.1	38.7	0.001
Ensure good light	22	35.5	40	64.5	56	90.3	6	9.7	39.9	0.001
Maintain equipment	30	48.4	32	51.6	57	91.9	5	8.1	28.0	0.001
Provide emotional support	23	37.1	39	62.9	57	91.9	5	8.1	14.9	0.001
Assist women to undress lower dress	18	29.0	44	71.0	56	90.3	6	9.7	48.3	0.001
Sterile the external genitalia	29	46.8	33	53.2	52	83.9	10	16.1	18.8	0.001
Observe any perineal abnormality	24	38.7	38	61.3	52	83.9	10	16.1	27.0	0.001
Handle instruments	30	48.4	32	51.6	55	88.7	7	11.3	23.3	0.001

Table (5): Indicates that, there was a highly statistically significant difference between studied nurses' practice during gynaecological examination between the pre and post intervention phases ($p < 0.001$).

Table (6): Distribution of studied nurses regarding their practices after GE examination at different phases of the intervention (n=62).

Practice after examination	Pre intervention				Post intervention				X ²	p-value
	Done		Not done		Done		Not done			
	no	%	no	%	no	%	no	%		
Put Perineal care & pad	15	24.2	47	75.8	51	82.3	11	17.7	41.9	0.001
Change gloves	28	45.2	34	54.8	55	88.7	7	11.3	17.5	0.001
Wash hands	15	24.2	47	75.8	55	88.7	7	11.3	52.4	0.001
Keep women at proper position	29	46.8	33	53.2	55	88.7	7	11.3	24.9	0.001
Return used equipment	18	29.0	44	71.0	52	83.9	10	16.1	37.9	0.001
Sterile used equipment	29	46.8	33	53.2	55	88.7	7	11.3	24.9	0.001
Listen to women attentively	24	38.7	38	61.3	55	88.7	7	11.3	33.5	0.001
Discuss prescribed treatment	30	48.4	32	51.6	56	90.3	6	9.7	25.6	0.001
Discuss follow up visit	21	33.9	41	66.1	52	83.9	10	16.1	32.0	0.001
Discuss time for return to sexual relation	31	50.0	31	50.0	52	83.9	10	16.1	16.0	0.001
Provide health education	30	48.4	32	51.6	55	88.7	7	11.3	23.3	0.001

Table (6): Indicates that, there was a highly statistically significant difference between studied nurses' practice after gynaecological examination between the pre and post intervention phases (p<0.001).

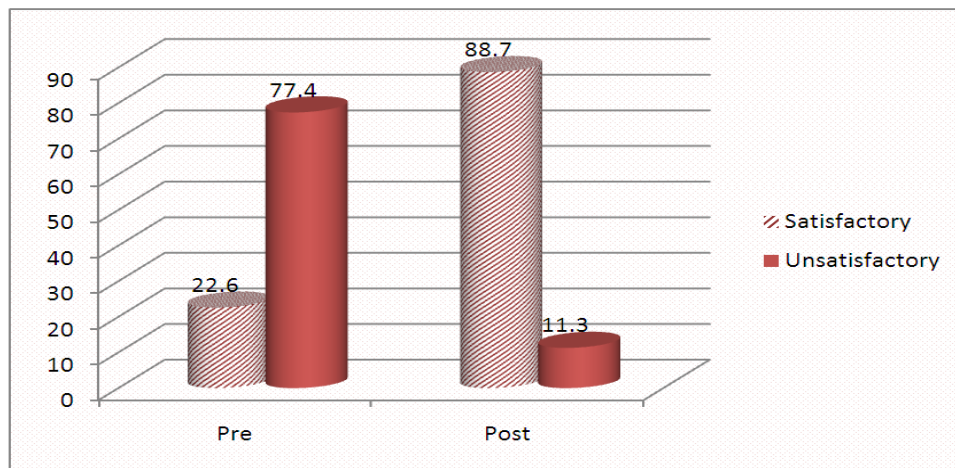


Figure (2): Distribution of total practices score of studied nurses regarding gynaecological examination.

Table (8): correlation between total knowledge and total practices between studied nurses at different phases of the intervention.

Total practices	Total Knowledge			
	Pre		Post	
	r	p-value	r	p-value
	0.43	0.04	0.73	0.000

Table (8): Shows that, that there was a highly positive association between studied nurse's total knowledge, Practice scores at post intervention phase.

III. Discussion

Gynecological examination is essential part of any women's health care, and must be accessible for all women to meet their health needs. Gynecological services must comply with best available scientific evidence for provision of high quality of care [14]. Nurses with improved knowledge and skills help improving their ability to provide safe and effective quality care for women undergoing gynecological examination [15]. Moreover several studies supported that health care providers had a pivotal role in improving women health [16]. So the current study aimed to evaluate the effect of educational intervention on maternity nurses' performance regarding gynaecological examination.

Regarding the socio-demographic characteristics of the maternity nurses, the present study findings showed that more than two fifth of studied maternity nurses had age group between 30-40 years old with mean age of 29.6 ± 7.62 years. More than half of them had technical institute in nursing. And half of them were live in urban area. In addition two thirds of them were married. And more than two thirds of them had years of experience from 5-10 years.

Moreover the result of the present revealed that more than three quarters of studied maternity nurse not received any special courses regarding gynecological examinations. these results were near similar to [17], who founded that more than half of studied sample were in age group of 30-39 years old. Also [18], in his study of Effect of structured training program on the knowledge and behaviors of breast and cervical cancer screening among the female nurses in Turkey reported that more than two thirds of sample were married. On other hand these study findings were inconsistent with [19], in the study to assess Knowledge, Attitude and Practice among female nursing students regarding breast self examination at Adma science and technology university, Ethiopia who stated that the majority of respondents were less than 30 years old and were single. Additionally [20], reported in his study of assess student nurses knowledge attitude and practice regarding the papanicolau examination that half of sample were aged 20-30 years old and majority of them were single. The possible explanation of these results from researcher point of view may be due to differences in sample. Also [21], reported in his study of assess knowledge and preventive practice and associated factors of female nurses towards cervical cancer in selected government hospital in Adis Ababa, Ethiopia that more than half of nurses had diploma and the majority of them had less than 5 years of work experience.

Moreover the results of present study were supported by [22], who stated in his study of assess knowledge, attitude and practice of nurses regarding early detection of breast and cervical cancer that all of nurses hadn't any special scientific session regarding breast and cervical cancer and methods of early detection.

Additionally, the finding of the present study proved that more half of studied maternity nurses' had poor level of knowledge regarding all knowledge items concerning gynecological examination at pre intervention phase. These findings may be due to that there is lack of implementing educational training program regarding gynecological examination at the studied setting. These results agree with [23], who stated that about three quarters of studied nurse had poor knowledge regarding gynecological examinations. This high lightened that the educational training was highly indicated.

Concerning the effect of educational intervention on maternity nurse's knowledge, the present study findings illustrated that there was significantly improvement of nurses' knowledge immediately post intervention. There was a marked improvement in the proportion of correct answers to specific questions about Definition of GE, appropriate time for GE, Frequency of GE, Proper age, Purpose, Types of GE, Methods of GE, Indications, Ethical Consideration for GE, Instrument & supplies for GE, Complication from ignoring GE. These results were supported by [24], who showed in his study of Impact of health education intervention on knowledge and perception of cervical cancer and cervical screening uptake among adult women in rural communities in Nigeria that health education had statistically significant effect on the awareness of cervical cancer and screening. The mean knowledge and perception scores were also improved post intervention.

As regard the practice of maternity nurses regarding gynecological examination, the present study findings proved that the majority of the studied maternity nurses had un satisfactory practice regarding the gynecological examinations at pre the intervention phase, which has been strongly increased immediately post intervention. This result supports the importance of educational intervention for maternity nurses regarding the gynecological examination.

Concerning the practice of maternity nurses before gynecological examination that include offer the women aseptic, greet the women, explain procedures, calm women, ask women to empty the bladder the present study findings proved that there were significantly improved in maternity nurses practice after intervention these results were agree with [12], who mentioned in his study of to assess care given to women examined by observation and palpation that majority of studied nurse not explained the procedure to women and not ask to empty the bladder the possible explanation may be due to that nurse not received any special courses regarding gynecological examination in clinical setting.

On other hand these result was disagreement with [25], who reported in the study to assess knowledge and attitude of newly married women toward their first gynecological examination procedure in ALjouf City

that the majority of studied woman their history were taken by nurse before examination .Also the majority of nurse asked the women to empty the bladder.

In relation to maternity nurses practice during gynecological examination include hand washing ,keep privacy ,provide emotional support ,handle examination instruments, observe the perineum ,raise examination table the present study findings showed that majority of nurses had unsatisfactory practice before intervention which significantly improved post intervention theses results were agree with [25].in the previous mentioned study who stated that the majority of studied women not provided by emotional support and reassurance by nurse .On other hand theses results were in contrast with [12].in the previous mentioned study who reported that the majority of studied women's perineum was observed for any abnormality or vaginal discharge .

Regarding nurses practice after gynecological examination the result of present study revealed that there was significantly improved in studied nurses practice post intervention compared to pre intervention these findings were in agreement with [26].in his study of evaluate importance of demographic characteristics and nurses role in women's perception and experience of gynecological examination who reported that majority of studied women not actively involved in communication and listen passively by nurse .

As regarding the correlation between total knowledge and practice total score, the present study showed that there was a highly positive association between them that indicated knowledge improvement subsequently improves practice; these findings were agreed with [27]. In the study to evaluate breast self examination and risk factors of breast cancer who reported that there were significant correlation between nurses knowledge and practice regarding breast self examination.

IV. Conclusion

The study concluded that research hypothesis were supported and educational intervention had a highly significant effect on improvement of maternity nurses' performance regarding gynecological examination. Also, there was a highly positive association between studied nurse's total knowledge score and Practice score at post intervention phase.

Recommendations.

That educational program regarding gynaecological examination should be provided for all obstetric health care givers.

References

- [1]. **Ulker, K., & Kivrak, Z. (2014):** The effect of information about gynecological examination on the anxiety level of women applying to gynecology clinics :A prospective, Randomized, controlled study .Iranian Red Crescent Medical Journal ,18(6):1-4 .
- [2]. **Damico D (2016).** Health & physical assessment in nursing. Boston: Pearson. pp. 660–665 and 827–848. ISBN 978-0133876406. : Knowledge, attitude and practice of Pap smear among Omani women.
- [3]. **Gershuni ,V.M., Ahima, R.S., and Tchou, J. (2016):** Obesity and breast cancer: a complex relationship. Current Surgery Reports, 4(4): 14.
- [4]. **Close, R.J., Sachs, C.J., and Dyne, P L., (2016):** Reliability of bimanual pelvic examinations performed in emergency departments .Western journal of medicine ,175(4)240.
- [5]. **Braverman ,P .K ., & Breech ,L.(2016) :**Gynecologic examination for adolescent in pediatric office setting ,pediatrics ,126(3):583-590.
- [6]. **Sarpkaya, D., & Vural ,G .(2014):** The use of a way of knowledge four in gynaecological examination in nursing .Dokuz Eylul University school of nursing electronic journal ,7(2):124-127.
- [7]. **American college of obstetrician and gynecologist, (ACOG),(2016):** Well- women visit. Committee opinion No534.Obstetrics and gynecology, 120 (2)421-424.
- [8]. **Roberts ,J.R., Custalow ,C B.& Thomesn ,T.W.(2019):** Roberts and Hedges clinical procedures in emergency medicine and acute care .7th .ed .Elsevier .pp1211.
- [9]. **Lobo ,R.A., Gershenson,D.M., Lentz,G.M ., (2017):** Comprehensive gynecology E-book ,7th ed ,El sevier sciences .pp 5-30.
- [10]. **Mahon, S.M., (2013):** The role of nurse in developing cancer screening programs .In Oncology nursing forum, 27 (9)1535-1547.
- [11]. **Cathy, R.A.(2014):** The adolescent gynecological exam article Indian ,issue of pediatric nursing p.2,Gale group .
- [12]. **El- Shafey , N.M.A .(2017):** Assessment of care given to women undergoing gynecological examination Master thesis ,Faculty of nursing ,Benha university .pp 4,61-65.
- [13]. **Demirary ,A., Korhan,E.A., Cevik,K.,(2014):** Comparison of the state anxiety related to gynaecological examination in patients attended in public and private institution .Electronic journal of vocational colleges ,1:122-129.
- [14]. **Mahmoud T., Templeton ,A.and Dhillon C. (2014):** Models in women's health RCOGISBN.978-1-606985-18-9
- [15]. **Sathiyalatha, S. (2015):** Effectiveness of educational intervention package regarding Postpartum management. The Journal of Nursing Trendz, 6 (3), 12-15.
- [16]. **Aktas,D., Kumas ,M.B., Odabastoglu,B.S.,A.And Kaya,A.(2017):** Effect of a special examination gown and nature –based sounds on anxiety in women undergoing gynecological examination .Clinical nursing research ,10547733816686475.
- [17]. **Yanikkerem,E., Ozdemir,M., Bingol,H(2009):** Women's attitudes and expectations regarding gynecological examination Midwifery ,25(5):55-508.
- [18]. **Ayla Bayık Temel,1 Şafak Dağhan,1 Şenay Kaymakçı,2 Renginaz Öztürk Dönmez,1 and Zeynep Arabacı3(2017) :**Effect of structured training programme on the knowledge and behaviors of breast and cervical cancer screening among the female teachers in Turkey BMC Women's Health. 2017; 17: 123.. doi: 10.1186/s12905-017-0478-8.

- [19]. **Segni , M.T., Tadesse ,D .M., Amdemichael ,R.,(2016):** Breast self examination :Knowledge ,attitude and practice among female health science students at Adema science and technology university ,Ethiopia.Gynaecologic obstetric (Sunnyvale),6 (368):2161-0932.
- [20]. **Reberiro, K.F.C., Moura,M.S.S.D.,Brandao,R.G.c., (2013):** Student nurses knowledge ,attitude and practice regarding the papincolaaou examination .Texto andcontexto –enfermagen ,22(2) :460-467.
- [21]. **Affi,O.A.W.(2015) :** Knowledge, attitude and practice of nurses regarding early detection of breast and cervical cancer .Master thesis ,faculty of nursing ,Benha university .pp 86,100.
- [22]. **Gebrie, M.H., Belete ,M.A., Lemlem,S. B ., (2015):** Obesity and breast cancer : acomplex relationship .current surgery reports ,4(4):14.
- [23]. **Mahrous,M(2018):**Knowledge ,practice and attitude regarding gynecological examination among maternity nurses in Benha university hospital ,master thesis pp.102-105.
- [24]. **Olumide A Abiodun, Oluwatosin O Olu-Abiodun, John O Sotunsa, and Francis A Oluwole(2014):** Impact of health education intervention on knowledge and perception of cervical cancer and cervical screening uptake among adult women in rural communities in Nigeria BMC Public Health. 2014; 14: 814.doi: 10.1186/1471-2458-14-814
- [25]. **Abdelati,I.H.,& ,N.,M.(2012):Assessment of knowledge and attitude for newly married women toward their first gynecological examination procedures in Al-jouf City –journal of American science ,8(12):1280-1290.**
- [26]. **Zaic,D.,&Prosen .M.,(2015):** Importance of demographic characteristics and nurses role in women's perceptions and experience of gynecological examination .Obzornik Zravstvenese Nege,49 (2):90.
- [27]. **Amasha.H.A.(2013):** Breast self examination and risk factors of breast cancer Awareness of Jordanian nurses ,Health science journal ,7(3) :303-314 .

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