Nursing Care Guideline for the Breast Disorders among Post Cesarean Section Women

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Abstract

Background: Caesarean sections may lead to delayed breastfeeding and difficulties in maternal linkage with the newborn which leads to common breast complications such as breast engorgement, painful nipple, nipple infection, mastitis, nipple trauma, breast abscess, the present study **Aimed to** assess the effect of nursing care guideline for breast disorders among post cesarean section women. **An intervention study** design (Quasi experimental research design) was conducted at dairout general hospital. **A purposive sample** of 100 women was included in the study. Data were collected through seven types of tools; Structured interviewing questionnaire sheet, observational checklist, engorgement scale, modified visual pain analogue scale, the Nipple Trauma Score (NTS), Follow up card and Supportive Material. **The results of the study revealed** Total knowledge score of women's of the study sample more than half of them were had poor knowledge before intervention, while most of them had good knowledge after intervention, total self-care practices of women's more than two thirds of the study sample were had low self-care practice before intervention while most of them were had high self-care practices after intervention and there was highly statistical significant relationship between women's total knowledge score and women's total self-care practice score. The study **Concluded** that there was a positive effect of nursing care guideline on women health status, knowledge and self-care practices post cesarean section women with breast disorders, so the study **Recommended** that: apply awareness program for post cesarean section women about the importance, prevention, management of breast and nipple disorders (outpatient units and breast feeding clinics at ain shams hospital).

Keywords: breast disorders, cesarean section, knowledge, self-care practice.

Introduction

Breastfeeding has many benefits that are not only reflected on the mother and the infant but also on the society as a whole. It has nutritive and immunological importance, also breastfeeding has a protective effect against the morbidity mainly during the infancy, Breastfeeding increases the duration of post-partum amenorrhea, and so increase intervals between births that finally improve health of both the mother and the infant **(Shawky, Bahaa, Abalkhail 2013)**. Meanwhile**,** Breastfeeding was identified as the optimal sole source of infants' nutrition by the American Academy of Pediatrics. It carries many benefits to both the mother and the infant **(Elwelely and Mansour, 2018)**.

Cesarean section effects on the breastfeeding world widely rates and still lower than international

recommendations, especially for those countries with high-income So, it is very important to increase awareness of health care professionals by various factors that may hinder breastfeeding process and untimely which may lead to cessation of breastfeeding **(Sayres and Visentin, 2018).**

Common breast's complaints or difficulties that may occur to mothers during breastfeeding included mastitis, breast engorgement, nipple pain/ trauma, plugged ducts, breast abscess, poor milk production or hypogalactia besides and galactocele **(Giugliani, 2014).**

Nurses play a vital role in health care provision, they provide the majority of direct postnatal care .In addition to performing routine medical procedures, they play many other important roles (teacher, care giver, educational, manager, and researcher**,** Nurses are extremely important to the care of mothers in all aspects of their health. They play a vital role in managing breast feeding mothers barriers such as inadequate knowledge and skills towards breast disorders among post cesarean section mothers **(Gianni et al., 2019**).

Nursing care guidelines are a standard instructions help in facilitation technique, which is an iterative multistage process. It is a flexible approach, that is used commonly within the health and social sciences .This guideline aims to provide an understanding of the breast disorders that produced from post cesarean section effect of maternal health, action steps .Also it can contribute significantly to broadening knowledge within the nursing profession **(Cunningham, 2015).**

Justification of the problem:

Breast disorders after cesarean section are a common disorders during lactation, with a prevalence of 3% to 33% of lactating mothers In Egypt within the five years ago **(Shawky, Bahaa, Abalkhail, 2013).** The international healthcare community has considered the ideal rate for caesarean sections that is concomitant with breast disorders to be (10% to 15%) of total post cesarean section women in worldwide **(Giugliani, 2014).**

The researcher observed that the number of breast disorders among post cesarean section women has increased in the last few years in Dairout area. So, the researcher was conducted this study to assess the effect of nursing care guideline on breast disorders among post cesarean section women.

The Aim of the Study:

The aim of this study was to assess the effect of nursing care guideline on breast disorders among post cesarean section women through the following objectives:-

1) Assess knowledge and self-care practices regarding the breast disorders among post cesarean section women.
2) Developing guidelines regarding the breast disorders among post cesarean section women.
3) Implement the nursing care guideline regarding caring of breast disorders among post cesarean section women.
4) Evaluate women knowledge and practices regarding the breast disorders among post cesarean section pre and post implement of the nursing care guidelines.

Hypothesis:

Post cesarean section women with breast disorder who received nursing care guideline about self-care practices and knowledge were had higher practice and knowledge score than before used.

Subjects And Methods:

Research design:

The study followed an intervention study design (Quasi experimental research design).

Settings:

The current study was conducted at Dairout general Hospital (postpartum department (inpatient department and outpatient clinics) in Dairout general hospital).

Sampling:

Sample Type:

A purposive sample used in this study with the following criteria: -
- Post cesarean section women with breast disorders.
- Ability of women to read and write.
- Women should be free from any chronic disease as: -
*Diabetes Mellitus (DM)
* Hypertension
* Cardiac diseases

Sample size:

It was calculated as**:-**

$$N = \frac{Z^2 (P (1-p))}{d2}$$

The current study was conducted with 100 cases from April 2019 to September 2019, **with the following: -**

Tools of data collection:

Six types of tools were used for data collection;

I-Structured interviewing questionnaire sheet it was adopted from **(Mostafa, Abd El fattah and Abu-talib, 2015),** it was modified by the researcher based on recent of literature. It contains 38 questions as (Multiple choice and closed end questions), including three parts.

First part, it included personal characteristics of women, data as age, marital status, level of education, job (question 1- 6).

Second part, it included of Obstetrical History (parity, type of delivery, any complication during pregnancy or labor or pervious postpartum complication) question (7 -14).

Third part, it was designed to assess women's knowledge regarding to breast disorders as (definition, types of breast disorders, cause and care of each type of breast disorders) question (15 -38).

Knowledge scoring system:

The answer of the women was distributed to three categories (correct answer, incorrect answers and don't know) and the researcher considered don't know as incorrect answer, and then distributed the answers to correct and incorrect. Correct answer was scored (2), while incorrect answer was scored (1) Total score =48.

All items were summed up and a mean knowledge score was calculated. While the total knowledge score was calculated as the following: Knowledge was considered poor if the percent score was <60 % and was average if percent was (60% - 75%) and consider good if percent was >75%. Total was 48 score. It was as following:-

- Poor -Low (<60%) (Score<29).
- Average (60%-75%) (Score 29-36).
- Good (>75%) (Score >36).

II-Observational Checklist adopted from **(Huggins, 2010) and (Nayak, 2015):** It was used to assess women self-care practice regarding breast disorders among post cesarean section.it included check list for steps of breast self-care for each type of disorder (general breast care, care of engorged breast, care of mastitis, care of cracked nipple and care of breast abscess) for each of them there were steps should observe for the women to check their practice.

Observational checklist scoring: system: It was rated by two scores (2) for done and (1) for not done. The women observation was considered to be low if the percent score was < 60%, average (60%-75%) and consider high if > 75%.

*The Reliability of Observational checklist tool was Cronbach Alpha .960.

III-Engorgement scale in breast disorders of post cesarean section women it was adapted from **(Pamel et al., (1994),** to assess the degree of breast Engorgement.it was classified to 6 degree signs of engorgement as Soft and no changes in breast (1), slight changes in the breast (2), firm and no tender breast (3), firm, and beginning tenderness in breast (4), firm and tender of the breast (5) and very firm and very tender (6).

Engorgement scale disorders scoring system: - It was as following:-
- Mild (<50%)
- Moderate (50%-75%)
- Severe (>75%)

*The Reliability of engorement tool was (Cronbach Alpha .887).

IV- Modified visual pain analogue scale it was adapted from **Abou-Dakn et al., 2011);** to assess pain degree among post cesarean section women. It was classified as no pain (<1), mild pain (1), and moderate pain (2) and severe pain (3).

❖ **Scoring system of Modified visual pain analogue scale:** It was as following:-
- <1 = no pain, (score <1).
- 1= mild pain, (score 1-4).
- 2 = moderate pain, (score5-7).
- 3= sever (score 8-10).

*The Reliability of Modified visual pain analogue scale tool was Cronbach Alpha. 830.

V-The Nipple Trauma Score (NTS) adopted from Abou-Dakn et al., 2011); to assess nipple trauma among post cesarean section women, it was classified as no microscopically visible skin changes (0), Erythematic or edema or combination of both (1), superficial damage with or without scab formation of less than one quarter of the nipple surface (2), superficial damage with or without scab formation of more than one quarter of the nipple surface (3), partial thickness wound with or without scab formation of less than one quarter of the nipple surface (4), and partial thickness wound with or without scab formation of more than one quarter of the nipple surface (5).

The Nipple Trauma Scoring system: -It was as following:
 -Mild (<50%); (Score ≤2).
 -Moderate (50%-80%) (Score 3-4).
 -Sever; (>80%) (Score=5).

*The Reliability of The Nipple Trauma Score (NTS) tool was (Cronbach Alpha .906).

VI-Follow up card (diary card contain of abnormal signs may be appear on woman breast like (pain- redness – swelling-hotness-wound -secretion) it was illustrated in Arabic that woman daily observe of any abnormalities in the breast. follow up card was included telephone number of each women and researcher to inform about her observation of breast condition.

-Supportive Material:- It was designed by the researcher based on literature review, It was designed in the form of guideline using simple Arabic language and different illustrative pictures in order to facilitate understanding its content and explain breast disorders according to needs or problem of each women, It consisted of three parts; **Part 1** consists of knowledge about breastfeeding (Definition of breastfeeding, importance of breastfeeding for mother and newborn, right positions of breastfeeding, signs of hungry and full of newborn baby). **Part 2** included the most common post cesarean section breast disorders (definition, signs and symptoms, management for each disorder). **Part 3** included breast self-examination, good nutrition and follow up card for mother.

Tools Validity:

Face and content validity of the study tools were assessed by jury group consisted of five experts in maternity and gynecological nursing department of faculty of nursing, Ain Shams University for comprehensiveness, accuracy and clarity in language.

Reliability Analysis:

Reliability analysis was measured using Cronbach's alpha coefficient and was found to be 0.971 for the knowledge part of the questionnaire, 0.960 for the checklist of self-care practice, 0.887 for engorgement tool, .830 for Modified visual pain analogue scale tool and 0.906 for of The Nipple Trauma Score (NTS) tool for breast disorders among post cesarean section women.

Ethical Consideration:

- Informed oral consent was obtained from each participant after explaining the purpose of the study.
- Each participant had the right to withdraw from the study at any time.
- Tools of data collection were not touching moral, religious, ethical and cultural aspects of the sample studied.
- Data was confidential and using the coding system from data.
- Tools of data collection were burnt after statistical analysis.
- No harmful methodology was used with the subjects.

Field work:

Field work consisted of five phases:

Phase 1(Preparatory phase):

A-It was started with a review of current and past, national and international related literature concerning the subjects of the study, using textbooks, articles, journals, and websites. This review was helpful to the researcher in reviewing and developing the data collection tools, and then the researcher was tested the validity of the tool through jury of expertise to test the content, knowledge, accuracy, and relevance of questions for tools.

B-An official written approval letter clarifying the purpose of the study was obtained from the director of Ain shams university hospital &director of

dairout general hospital maternity and gynecological department as an approval for data collection to conduct this study.

C-Pilot study was included (10%) according to inclusion of the sample size (10 cases) to evaluate the efficiency; clarity of tools that was used in the study. 10% of pilot study it's excluded from the study sample.

Phase 2 (assessment phase):

- The researcher attended at the pre mentioned setting three days per week from 9.am to 2.pm, the researcher introduced herself to women who were post cesarean section operation, explained the aim of the study and ensures cooperation. Then oral consent from women was obtained.

- The researcher started to fill the structured interviewing questionnaire sheet from the postpartum women to assess personal characteristic, knowledge regarding breast disorders of post cesarean section and documented all the data in the questionnaire sheet and was ensure confidentiality of data. It took from 10 to 15 minutes.

- The researcher assessed self-practice regarding post cesarean section women with breast disorders by assessing observational check list. Each observation checklist was given a code number. The observation took from 10 to 20 minutes.

- Engorgement scale disorders were provided to assess the woman who was suffering from engorgement and assess its degree.

- Modified visual analogue scale (pain assessment) was applied to check the degree of pain of breast disorder (no

pain-mild pain-moderate pain-severe pain).

- The Nipple Trauma Score was applied to check cases of nipple trauma and pain.

Phase 3 (implementation phase):

- The researcher explain the nursing care guideline for the postpartum women, explain according to needs or problem of each woman (Arabic Educational booklet) it took from 30-60 minutes.it was in three sessions.

- First session, it included knowledge regarding breast disorder started with definition of breastfeeding, importance of breastfeeding for mother and newborn, right positions of breastfeeding, signs of hungry and full of newborn baby).it took 10-20 minutes.

- Second session it consists of the most common of breast disorders post cesarean section (definition, signs and symptoms, management for each type of breast disorder) and mother education about breast self-examination and follow up card for mother. It took 10-20 minutes.

Phase 4 (follow up phase):

- The researcher communicated with women during weekly coming for dressing on the cesarean section wound and via telephone call or what's App media for follow up, It took four weeks for each woman.

- Follow up card (diary card contain of abnormal signs may be appeared on woman breast like (pain- redness – swelling-hotness-wound -secretion).

- Follow up card was reviewed by the researcher every visit of woman during dressing of cesarean section

operation site. Then evaluation of follow up sheet was done and documented on the last visit of each woman.

- The implementation phase took four weeks for each woman after post cesarean section.

Phase 5 (Evaluation phase):

- Evaluation of the effect of the nursing care guideline was done through pre and post assessment of knowledge and self-care practice of the breast disorder among post cesarean section women after four weeks using the same data collection tools used at phase 1.

Limitation of the study:

Unsuitable place for data collection

Data Management and Analysis:

The collected data was revised, coded, tabulated and introduced by using statistical software package for social sciences (SPSS version 18 Program). Data was presented and suitable, analysis was done according to the type of data obtained for each parameter, was presented using descriptive statistics in the form of frequencies and percentages.

I- Descriptive Statistics:

1. Mean, standard deviation (+SD), and range for parametric numerical data.
2. Frequency and percentage of non-numerical data.

II- Analytical Statistics:

1. **Cochrane Q test** (is an extension to the Mcnemar test for related samples that provides a method for testing for differences between three or more matched sets of frequencies or proportions) was used to determine differences between variables.

2. **Chi-square test** (also written as χ2 test) is a statistical hypothesis test that used to determine whether there is a statistically significant difference between the expected frequencies and the observed frequencies in one or more categories of a contingency table.

P-value: Level of significance:
- P>0.05: Non significant (NS)
- P<0.05: Significant (S)
- P<0.01: Highly significant (HS)

Results

Table (1): illustrates that 47% of women were in age group from (18- 25) years and 2% were less than 18 years with a mean of ±26.18, about 98% of them were married, 35% of them had an intermediate education and 19% had a basic education, also 78% are not employed. About 50% of their husbands have an intermediate level of education and only 6% are illiterate, 65% of their husbands have a free works.

Table (2): it is obvious that there was highly statistical significant improvement of women's knowledge regarding (definition, causes, types, and management of breast disorders) at post and follows up of intervention compared with pre intervention (p < 0.001).

Table (3): it demonstrates that there was highly statistical significant difference in women's knowledge regarding management of breast disorders on three measures level pre, post and follow up after intervention (p < 0.001).

Figure (1): Total women's knowledge about breast disorders and its management

Figure (2): women's total Self-care practice score in pre, post and follow up of intervention

Table (4) illustrates that there was highly statistical significant relationship between women's total knowledge score and women's total self-care practice score of the study sample regarding breast disorders (p< 0.001).

Table (1): Distribution of studied sample according to general characteristics.

| Personal data	No (100)	%
1) Age/ years (Mean) 26.18± 4.79		
• less than 18 years	2	2.0
• From 18 - 25 years	47	47.0
• From 25 - 30 years	32	32.0
• More than 30 years	19	19.0
2) Social Status		
• Married	98	98.0
• Widowed	2	2.0
3) Education level of the wife		
• Basic education	40	40.0
• Intermediate education	35	35.0
• University education	25	25.0
4) Wife function		
• working	22	22.0 78.0
• Not working	78	
5) Education level of the husband		
• Illiterate	6	6.0
• Basic education	20	20.0
• Intermediate education	50	50.0
• University education	24	24.0
6) Husband function		
• not working	2	2.0
• Works in the public sector	33	33.0
• Free work**s**	65	65.0
Total	**100**	**100**

Table (2): Distribution of studied sample regarding women knowledge about breast disorders.

Knowledge about breast disorders	Before intervention		After intervention		follow up		cochrane Q value	P-value
	No (100)	%	No (100)	%	No (100)	%		
1) Definition of breast disorders								
-Correct								
-Incorrect	44	44.0	86	86.0	94	94.0	77.44	**0.001****
-Don't know	35	35.0	8	8.0	6	6.0		
	21	21.0	6	6.0	0	0.0		
2) Causes of breast disorders								
-Correct	51	51.0	90	90.0	95	95.0		
-Incorrect	19	19.0	7	7.0	5	5.0	75.49	**0.001****
-Don't know	30	30.0	3	3.0	0	0.0		
3)Types of breast disorders								
-Correct	30	30.0	84	84.0	88	88.0	97.64	**0.001****
-Incorrect	52	52.0	12	12.0	12	12.0		
-Don't know	18	18.0	4	4.0	0	0.0		
4) How to manage breast disorders								
-Correct	32	32.0	85	85.0	89	89.0	75.07	**0.001****
-Incorrect	48	48.0	10	10.0	11	11.0		
-Don't know	20	20.0	5	5.0	0	0.0		
Total	**100**	**100.0**	**100**	**100.0**	**100**	**100.0**		

(**) highly statistically significant p < 0.01

Table (3): Distribution of studied sample according to their knowledge about management of breast disorders.

Knowledge about breast disorders:	Before intervention		After intervention		Follow up		cochrane Q value	p-value
	No (100)	%	No (100)	%	No (100)	%		
1) Women' knowledge when occurrence of breast disorders								
• Correct	19	19.0	97	97.0	99	99.0	205.0	**0.001****
• Incorrect	81	81.0	3	3.0	1	1.0		
2) Deal with breast infections								
• Correct	70	70.0	98	98.0	99	99.0		**0.001****
• Incorrect	11	11.0	2	2.0	1	1.0	57.09	
• Don't know	19	19.0	0	0.0	0	0.0		
3) Deal with breast abscess								
• Correct	34	34.0	74	74.0	87	87.0	69.36	**0.001****
• Incorrect	49	49.0	18	18.0	13	13.0		
• Don't know	17	17.0	8	8.0	0	0.0		
4) Deal with cracked nipple								
• Correct	11	11.0	86	86.0	92	92.0	175	
• Incorrect	88	88.0	14	14.0	8	8.0		**0.001****
• Don't know	1	1.0	0	0.0	0	0.0		
5) Deal with nipple pain								
• Correct	70	70.0	95	95.0	97	97.0	44.94	**0.001****
• Incorrect	17	17.0	5	5.0	3	3.0		
• Don't know	13	13.0	0	0.0	0	0.0		
6) deal with the flat nipple								
• Correct	17	17.0	92	92.0	94	94.0	177.3	**0.001****
• Incorrect	54	54.0	3	3.0	6	6.0		
• Don't know	29	29.0	5	5.0	0	0.0		
7) Deal with lack of breast milk production								
• Correct	66	66.0	94	94.0	96	96.0	48.41	**0.001****
• Incorrect	23	23.0	6	6.0	4	4.0		
• Don't know	11	11.0	0	0.0	0	0.0		
8) ways to take care of breast disorders								
• Correct	41	41.0	81	81.0	88	88.0	63.01	**0.001****
• Incorrect	49	49.0	14	14.0	12	12.0		
• Don't know	10	10.0	5	5.0	0	0.0		
Total	**100**	**100.0**	**100**	**100.0**	**100**	**100.0**		
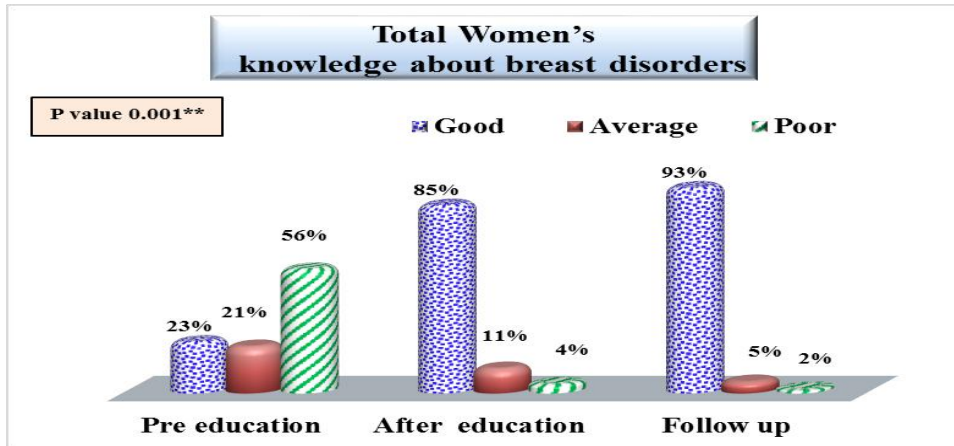
(**) highly statistically significant p < 0.01

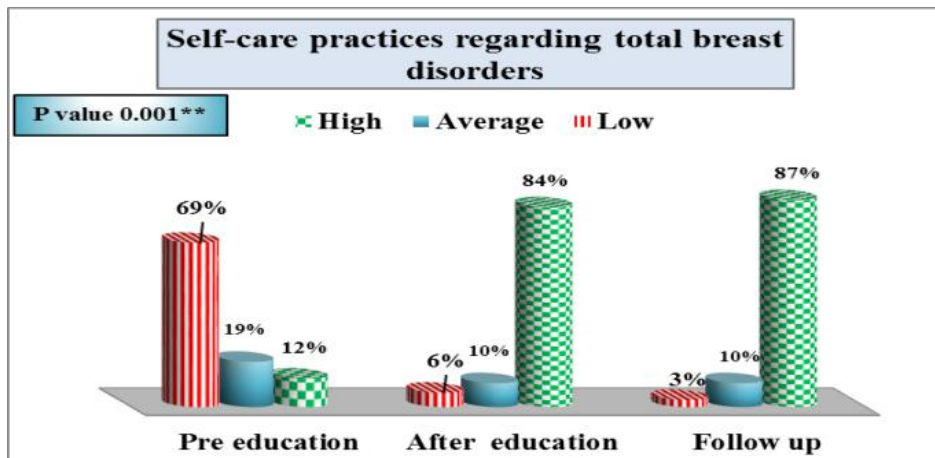**Figure (1):** Total women's knowledge about breast disorders and its management.

Figure (2): women's total Self-care practice score in pre, post and follow up of intervention.

Table (4): Relationship between women's total knowledge score and total self-care practice score regarding breast disorders:

Total knowledge regarding breast disorders	Self-care practices regarding total breast disorders in pretest						Total	Chi Square	P-value
	High		Average		Low				
	N	%	N	%	N	%			
• Good	10	10.0	7	7.0	6	6.0	**23**		
• Average	2	2.0	8	8.0	11	11.0	**21**	**47.17**	**0.001****
• Poor	0	0.0	4	4.0	52	52.0	**56**		
Total	**12**	**12.0**	**19**	**19.0**	**69**	**69.0**	**100**		

(**) highly statistically significant p < 0.01

Discussion:

Breastfeeding mothers might experience various breast problems or difficulties especially in the first month postpartum **(Kronborg, Foverskov, Væth, 2015).** These complaints had an effect on continuing of breastfeeding to mothers' infants and thus, toward exclusive breastfeeding in the first two months postpartum to the rate of 68% of mothers **(Wagner and Chantry, 2013)**. The Current study aimed to assess the effect of nursing care guideline for breast disorders among post cesarean section women.

According to the general characteristic data the current study illustrated that less than half of the studied sample were in age group from (18- 25) years with a mean of 26.18±4.79, two fifth of them had basic level of education while half of them their husbands had intermediate education, the majority of them were married and more than three- quarters had did not work.

The present study matched with **(Elwelely and Mansour, 2018)** who applied their study to identify the disorders that newly mothers may face during breastfeeding and the plan of nursing action and reported that around one third of the studied sample were in age group (20- 30) years with a mean of 27.2±6.5, more than one third of the studied sample had intermediate level of education and near to three quarters of them had no work. The similarity between the two studies may be due to the same general characteristics in the samples that were participating on the studies.

On the other hand, **(Muda et al., 2016)** who implemented their study in Malaysia to identify the factors affecting breast feeding termination demonstrated

that the range of age was among the participants were 26 and 35 years old, the majority of the studied sample had high level of education and full time work. These differences between the two studies may be due to the differences of the personnel characteristics in the studied sample or study setting

Regarding to women knowledge about breast disorders the present study illustrated that more than one third of the studied women had incorrect knowledge about definition of breast disorders and become eight percent and six percent after intervention and during follow up respectively, also less than one third of them don't know about causes of breast disorders and become three percent and zero percent after intervention and follow up respectively, more than half of them had incorrect knowledge about types of breast disorders and become one eighth after intervention and during follow up, nearly half of them had incorrect knowledge about how to manage breast disorders and become one tenth after intervention the present study result agreed with **(Aktimur et al., 2016),** who implemented their study in Turkey to assess the actual experience and knowledge level of female health care professionals regarding puerperal mastitis and showed that more than half of studied sample don't know and had incorrect knowledge about the definition and causes of breast disorder. The similarity between two studied samples may be due to both samples need to increase their knowledge related to breast disorders.

The present study findings contrast with **(Hassan et al., 2020)** who conducted their study to investigate the breastfeeding knowledge and practices among primiparous women with a cesarean section and its impact on breast engorgement in Upper Egypt and show

that less than half of studied women had incorrect knowledge related to definition of breast disorders, more than half of them had incorrect and incomplete knowledge related to cause, one third of them had incorrect knowledge related to management of breast disorders. This difference between two studied samples may be due to the difference in data collection between studied samples, or improving information technology that facilitate their knowledge

Regarding to knowledge about management of breast disorders the present study show that most of the studied women had incorrect knowledge related to women's knowledge to breast disorders and become one percent after intervention and during follow up, nearly half of them had incorrect knowledge related to know how to deal with breast abscess and become one fifth after intervention, most of them had incorrect knowledge related to know how to deal know with cracked nipple and become eight percent during follow up, more than half of them had incorrect knowledge related to how to deal with flat nipple and become three percent after intervention, nearly half of them had incorrect knowledge related to the ways of taking care of their breast disorders and become one eighth during follow up.

The present study findings agreed with **(Pustotina, 2016)** who conducted their study to identify the best management approaches to mastitis management in breastfeeding women and heavy breast engorgement in the early postnatal period and show that half of the studied sample had incorrect knowledge related to how to deal with breast abscess while, disagree with **(Abdallah, Eldin and Gad, 2018)** who conducted their study to estimate the prevalence of breast and nipple disorders and show that one

third of the studied women had incorrect knowledge related to ways to take care of breast disorders. This difference between two studied samples may be due to the difference in demographic characteristics.

Regarding to total knowledge about post cesarean section with breast disorders the current study revealed that more than half of the studied sample had poor knowledge before intervention while most of them had good knowledge after intervention and the majority of them had good knowledge during follow up with highly statistical significant difference between them. This may be explained by the fact that those women who didn't receive enough information about breast disorder during antenatal care also, may be due to the lack of knowledge, awareness of women and low level of education. Then, the improvement on post intervention and follow up may be due to the continuous education and follow up.

The present result was supported with **(Rathod et al., 2017)** who performed their study in India to identify the effect of planned teaching program on knowledge regarding chosen breast related disorders and their management among postpartum women and found that less than one-quarter of them had good knowledge in pre-test and half of them had poor knowledge pre-test, On the other hand **(John, Cordeiro, Manjima, 2015)** who applied their study in India on the antenatal mothers to assess their knowledge regarded breast disorders and created awareness on breast disorders and stated that about more than half of the studied sample had adequate knowledge, more than one quarter had average knowledge and less than quarter had inadequate knowledge. The differences between the two studies were due to the

different cultures and demographic characteristics.

As regard women's total Self-care practice score in pre, post and follow up of intervention, the present study revealed that more than two thirds of the studied sample had a low level of practice before intervention while, most of them had a high level of practice after education and follow up of intervention. This result matched with **(Karaçam and Sağlık, 2018)** who reported that prenatal education/ counseling/ motivation and follow-up during pregnancy was efficient in reducing breastfeeding disorders and in improving breastfeeding success; strong motivation, proactive lactation management and social support were efficient in initiating the process of lactation.

The current study was in disagree with **(Karatay and Gurarslan , 2018)** who applied their study in Turkey to identify traditional practices of postpartum women regarding breast disorders and showed that more than two thirds of mothers no the correct practices to deal with breast disorders before intervention while, the majority of the study sample had good practices after educational program. This similarity between the two studies may be due to work on the same studied sample characteristics and near time of intervention. Also, disagreed with **(Elwelely and Mansour, 2018)** who reported that less than half of the studied sample had incorrect total practice with moderate / severe breast disorders. These differences may be due to the variety in the tools of data collection between the two studied samples that were applied.

Concerning to relationship between women's total knowledge score and total self-care practices score

regarding breast disorders, the current study presented that there was highly statistical significant relationship between women's total knowledge score and women's total self-care practices score of the study sample regarding breast disorders (p< 0.001). This finding agreed with **(Hassan and Abdelwahed, 2015)** who illustrated that there was a relationship between total knowledge and total breast feeding practices (p< 0.001). It is assuring that level of education plays a very important role of improving self-care practices that means this studied sample needs continuous nursing care guideline intervention with follow up about breast disorder after post cesarean section to improve their self-care practices.

Self-care practice regarding to breast disorder was poor then improved post intervention and follow up. So post cesarean section women need to educational program to increase awareness about self-care practice of breast disorders to maintain the breast healthy and manage breast disorders risk factors.

The breast disorders start to appear, so many signs may be presented such as the breast becomes Painful, Chills or fever, Red, Joint aches and pains, hot and Flu-like symptoms. A red, lumpy, hard, painful area on the breast is an early sign of breast disorders and can be developed quickly and leads to inflammation of the breast tissue if the milk is not removed. More severe infections such as abscesses can be prevented if they aren't treated early **(Boakes et al., 2018).**

Counseling about breastfeeding is imperative during antenatal and early postnatal period to clear up misconceptions, upgrade women's knowledge about the importance of EBF,

the proper technique of breastfeeding as well as the prevention and management of breast and nipple problems. Hospital based practices and health providers should encourage early initiation breastfeeding and overcome the barriers that women may face and lead to unsuccessful lactation, increasing awareness on the importance of proper breastfeeding technique in the early post-delivery period as well as continued communication with a health care professional is essential to prevent breastfeeding-related problems **(Aktimur et al., 2016).**

Conclusion:

Based on the finding of the present study, the researcher concluded that: The findings of present study supported the research hypothesis as regard to women's total knowledge about breast disorder it was found that more than half of the studied sample had poor knowledge before intervention while the most of the studied sample had good knowledge after intervention and follow up regarding breast disorders. As regard to women's total self-care practices it was showed that more than two thirds of the studied sample had low level of practices before intervention while become most of the studied sample had a high level of practices at post and follow up of intervention regarding breast disorders. There was highly statistical significant relationship between women's total knowledge score and women's total self-care practices score regarding breast disorders.

Recommendations:

On the light of the findings of the study, the following are recommended:

- Disseminate the multidisciplinary collaboration approach for breast disorders management among post cesarean section women.

- Apply awareness program for post cesarean section women about the importance, prevention, management of breast and nipple disorders (outpatient units and breast feeding clinics at Ain Shams Hospital).

- Further research on large scale sample based on evidence base about breast disorders.
- Further research on large scale sample about perception and practices of breast disorders among post cesarean section women.

References

Abdallah, N. M. A., Eldin, S. A., & Gad, A. H. (2018): Breast and nipple problems encountered among puerperal primipara women inZagazig. International Journal of Pharmaceutical Research &Allied Sciences, 7(1), 183-195.

Abou-Dakn W, Fluhr M, Gensch A,Wöckel l (2011): Positive Effect of HPA lanolin versus expressed breast milk on painful & damaged nipples during lactation, Skin Pharmacol Physiol.,24(1): 27-35

Aktimur R, Kiymaz D, Gümüş K, Yildirim, K, Çetinkünar S, Özlem N (2016): Experience and knowledge level of female health care professionals in Samsun province regarding puerperal mastitis. Turkish Journal of Surgery, 32(4), 261–266.

Boakes E, Woods A, Johnson N, Kadoglou N, (2018): Breast Infection: A Review of Diagnosis and Management Practices. European Journal of Breast Health, 12, 136–143.

Cunningham A,(2015): Teachers' Knowledge about Beginning Reading Development and Instruction, Book 1.indb 448, 1/19/2015 9:41:48 PM

Giugliani, E R, (2014): Common problems during lactation and their management. *Journal depediatria. 80*(5), s147-s154.

Elwelely MZ and Mansour F,(2018): Problems Facing Newly Breast Feeding Mothers and the Plan of Nursing Action, IOSR Journal of Nursing a nd Health Science (IOSR-JNHS) e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 7, Issue 1 Ver. II. (Jan.- Feb .2018), PP 12-19.

Gianni L, Bettinelli E, Manfra P, Sorrentino G, Bezze E, Plevani L, Cavallaro G, Ra_aeli G, Crippa BL, Colombo L, Morniroli D, Liotto N, Roggero P, Villamor E, Marchisio P and Mosca F (2019): Breastfeeding Diffulties and Risk for Early Breastfeeding Cessation, Nutrients 2019, 11, 2266.

Hassan E, EL-Kholy A, Ateya A, Hassan A (2020): Breast Feeding Knowledge and Practices among Primiparous Women with Caesarean Section: Impact on Breast Engorgement in Upper Egypt. Communication, Society and Media, 3(2), p34.

Hassan K and Abdelwahed Y, (2015): Knowledge &Practices of Exclusive Breast Feeding in Fayoum, Egypt. The Egyptian Journal of Community Medicine, 33(1), 61–77.

Huggins C,(2010): Common problems during lactation and their management. Jornal de Pediatria, 80(5 SUPPL. 5), 147–154.

John L, Cordeiro P, Manjima G. (2015): International Journal of Recent Scientific antenatal mothers in a selected hospital, mangaluru with a view to develop an knowledge regarding breast problems among antenatal mothers in a selected hospital , mangaluru with a view to. International Journal of Recent Scientific Research, 6(9), 6.

Karaçam Z and Sağlık M, (2018): Breastfeeding problems and interventions performed on problems: Systematic review based on studies made in Turkey. Turk Pediatri Arsivi, 53(3), 134–148.

Karatay G & Gurarslan N, (2018): Traditional Practices of Turkish Mothers at Breast Engorgment during Postpartum Period. International Journal of Caring Sciences, 11(3), 1954–1961.

Kronborg H, Foverskov E, Væth M (2015): Breastfeeding and introduction of complementary food in Danish infants. In Scandinavian Journal of Public Health (Vol. 43, Issue 2, pp. 138–145).

Mostafa E, Abd El fattah H and Abutalib Y 2015: Evidence Based Guideline Using to Alleviate Traumatic Nipple among Nursing Mothers World Journal of Nursing Sciences 1 (3): 35-44, 2015 ISSN 2222-1352

Muda M, Aung T, Ibrahim F, Ismail A (2016): Breast Feeding Issue : A Study on Factors Affecting Termination of Breast feeding among Working Mothers. International Journal of Health Sciences & Research, 6(9), 257–263.

Nayak S, 2015: An observational study on breast feeding success among postnatal mothers,Nitte Univerisity Journal Of Health Science,NUJHS Vol.5,No.3, 2015, ISSN22497110)

Pamel D,Hill R,Sharron S,Humenick R (1994): The occurrence of breast engorgement, Journal of Human Lactation 15580406

Pustotina, O. (2016): Management of mastitis and breast engorement in breastfeeding women. The Journal of Maternal-Fetal & Neonatal Medicine, 29(19), 3121-3125.

Rathod D, Rita T, Ravindra N, Vruti P, Poonam G. (2017): A Study to Assess the Effectiveness of Planned Teaching Programme on Knowledge Regarding Selected Breast Related Problems and their Management among Postnatal Women at Selected Hospital, Vadodara, International Journal of Nursing Education, July-September 2017, Vol.9, No. 3.

Sayres S and Visentin L, (2018): Breastfeeding: Uncovering barriers and o_ering solutions. Curr. Opin. Pediatr., 30, 591–596

Shawky S, Bahaa A. Abalkhail (2013): Maternal factors associated with the duration of breast feeding in Jeddah, Saudi Arabia, Pediatric and Perinatal Epidemiology, Blackwell Publishing Ltd, 4(17), 91-96

Sithara S, Kamlesh K, Sharma N, Manju S, Anu T, Ramesh A, Manju V (2020): Predictors of Breastfeeding Problems in The First Postnatal Week and Its Effect on Exclusive Breastfeeding Rate at Six Months: Experience in A Tertiary Care Centre in Northern India, Indian Journal of Public Health, Volume58, Issue 4 .

Wagner A and Chantry C, (2013): Breastfeeding Concerns at 3 and 7 Days Postpartum and Feeding Status at 2 Months. 132(4), 865–875.