Effect of prenatal Educational program on Knowledge and Self Care Practices Regarding Prevention of Breast Problems among Lactating Primiparous Women

Eman Youssif Ali Awad [1], Faiza Mohamed EL-Said [2], Samar Ahmed Maklad [3]

[1,3] Lecturers of Community Health Nursing, Faculty of Nursing Tanta University, Egypt.

[2]Lecturer of Maternal and Neonatal Health Nursing Faculty of Nursing Tanta University, Egypt

Abstract

Background: Breast feeding problems are one of the common postpartum problems that occur especially among primpara women. **Aim:** is to evaluate effect of prenatal educational program on knowledge and self-care practices regarding prevention of breast problems among lactating primiparous women. **Design:** a quasi-experimental research design (one group pre-test, post-test) was employed. **Setting:** This study was carried up at Tanta University Hospitals' obstetrics outpatient clinic and two MCH centers (Botros and Embaby centers) in Tanta City, Gharbia Governorate. **Subjects**: Purposive sample comprised of (100) primipara women during third trimester, intended to breastfeed their infants, free from any breast problems and accepting to participate in the study. **Tools:** For this study's data collection, three instruments were used: **Tool I:** A-self-administrative questionnaire which composed of two parts, **part I:** socio-demographic characteristics of the studied women, **Part II:** Reproductive history of the studied women, **tool II:** Knowledge assessment tool which composed of two parts, **part I:** knowledge of primipara women about breast feeding characteristics, **Part II:** primipara women's knowledge about breast feeding problems **and tool III:** women's self-care practices regarding prevention of breast problems**. Results**: The relationship between practices and knowledge was statistically significant (p 0.001*), More than one-third (37%) of the women studied had poor knowledge prior to intervention, but the majority (85%) had good knowledge after intervention. There was also a statistically significant positive correlation between the studied women's knowledge and their practices after the prenatal educational program. **Conclusion:** Following the implementation of prenatal educational program, scores of knowledge and self-care practices improved significantly. **Recommendations:** It can be recommended that creating antenatal educational programs for all primiparous women to improve their understanding of breast issues and self-care practices was required.

Key words: Breast feeding problems, Primiparous women, Knowledge assessment tool,Self-carepractices.

Introduction

Breastfeeding is the mother's gift for every child. Globally, improving breastfeeding rates could save the lives of over 800,000 children under the age of five. In addition to promoting healthy growth, breastfeeding also promotes healthy brain development, increasing intelligence among children and adolescents across all income levels, decreasing child infections and dental malocclusion [1-3]. Breastfeeding is beneficial not only to babies, but also to mothers. Breastfeeding mothers are less likely to experience postpartum haemorrhage, postpartum depression, ovarian cancer, heart disease, or type 2 diabetes. It is estimated that increasing breastfeeding rates save 20,000 maternal lives from breast cancer each year **around the world (1, 4).**The World Health Organization (WHO) has set a global goal of increasing exclusive breastfeeding rates for the first six months of life to at least 50% by 2025. It is difficult for primi mothers to breastfeed exclusively for six months. Breast feeding is essential for improving mothers' and children's health, but women experience many physiological and psychological changes and problems during puerperium. The most important problems currently noted are breast problems, particularly among first-time mothers. As a result, being aware of the mother's knowledge about breast feeding issues is critical in the continuation of breast feeding [2, 5, 6].

During the early stages of breastfeeding, a number of common issues may arise and is to blame for the early discontinuation of breastfeeding such as; breast engorgement, nipple pain, plugged milk duct, breast infection and inadequate milk supply, which lead the mother to inadequate empty of the breasts. In addition to, incorrect breast feeding technique, Pacifiers and food suppliers, as well as infrequent and scheduled breastfeeding, are risk factors that can predispose to breast feeding problems [7-9].It is crucial to treat those circumstances properly since, if not, they could result in early weaning and significant issues. Numerous studies have shown that improper posture and insufficient milk can harm the breast nipple, which is accompanied by discomfort at the breast, fever, lethargy, coughing, stunted growth, and dehydration. [10-12].

Nurse's role in the management of breast problems is multidimensional including preventive, assessment, educational and curative roles. The nurse should concentrate on preventing breast issues begins during pregnancy by attending antenatal care classes for preparation to breastfeeding especially among primipara women. Self-care practices are the activities performed to promote wellbeing and promote proper breast feeding without any problems. Women's practical knowledge and confidence to breastfeed are increased when they receive antenatal counseling from qualified health care professionals. Additionally, assistance from the maternity nurse during the postpartum period aids in establishing excellent lactation and is linked to the decrease or prevention of breastfeeding issues and nipple issues [13-15].

There is a lot of evidence for post-natal breastfeeding issues; according to

several researches especially among primiparous women and the primary cause is their lack of knowledge and practices. In addition to, postnatal mothers are unaware of the numerous techniques for treating postnatal breast issues. As a result, health education programs are needed to improve women's knowledge and self-care practices regarding postnatal breast problems, and breast care to raise knowledge among both pregnant and postpartum women, which may help to further prevent breast problems [16-18].

Significance of the study:

There are frequently difficulties involved with feeding breast milk to a newborn. Dealing with these difficulties can be challenging, especially when these breast problems are mixed with mothers' typical concerns for supporting a newborn's health. Primipara moms frequently exhibit a great deal of uncertainty and anxiety on the necessity of providing their newborn children with the best care possible. To consolidate that, the women need to receive the proper education and good self-care practices assistance in preventing more breastfeeding breast complications.

Aim of the study:

The aim of this study is to evaluate effect of prenatal educational program on knowledge and self-care practices regarding prevention of breast problems among lactating primiparous women.

Research Hypothesis:

Implementation of prenatal educational program would enhance knowledge and improve self-care practices of lactating primiparous women regarding prevention of breastfeeding problems.

Subjects and Method: Subjects

Design:A quasi-experimental research design (one group pre-test, post-test) was adopted for the current investigation.

Setting: This research was done at Tanta University Hospitals' obstetrics outpatient clinic and two MCH centers (Botros and Embaby centers) in Tanta City, Gharbia Governorate.

Subjects: Purposive sample comprised of (100) primipara women during third trimester from the previously mentioned setting according the following criteria; women intended to breastfeed their infants, women had normal protruded breast nipple, free from any breast problems and accepting to take part in the research. The sample size was estimated using the Epi Info statistical tool, version 2002, which was developed by the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, and the United States. The following criteria were used to determine the sample size: The study has a cross-sectional design, a 10% error margin, and a 95% confidence limit.

Tools of data collection:

Based on the most recent related literature [16-20], three tools were used included:-

Tool (I): A-self-administrative questionnaire:-

This tool was included two portions, as follows:

Part (1): Socio-demographic characteristics of the studied women:-

This section featured socio-demographic details like (age, occupation, educational level, residence, address, telephone number).

Part (2): Reproductive history of the studied women: - which includes data about current pregnancy such as (time and number of antenatal visit, antenatal care place and attendance to ante natal classes)

Tool (II):- Tool for assessing knowledge:-

The researcher created two parts to evaluate primipara women's understanding of breastfeeding and breast problems: -

Part I was used to assess primipara women's knowledge of breast feeding characteristics: it included (9) questions regarding the start of breastfeeding, the type of baby feeding, the length of the feeding, the position, the frequency, the number of feedings throughout the day, and the source of the information.

Part II: was employed to evaluate primipara women's knowledge of breast feeding problems, with knowledge determined using multiple-choice questions. It included 19 questions about the definition, causes, signs &symptoms, prevention and management for each one of four breast feeding problems (breast engorgement, plugged mild ducts, cracked nipple, and breast mastitis).

Knowledge assessment tool Scoring System:

The knowledge-related responses from the women were scored and calculated. Each correct answer received a score of one, while each incorrect answer received a score of zero, with a maximum score of (38) and a minimum of 0. Poor knowledge received a score of less than 50%, moderate knowledge received a score of between 50% and 75%, and strong knowledge received a score of 75% or above.

Tool (III):- Self-care practices of women:

It was created by the investigator and is concerned with assessing women's self-care practices in order to prevent breast problems during breast feeding. It was consisted of (20) questions regarding self-care practices including Start breast feeding immediately after the delivery, avoid tight supportive bra, Proper clean the breast before and after each feeding, ect.

Scoring system:

To obtain the outcomes of women's self-care practices that should be performed by women in order to prevent breast problems, each step was distributed as done correctly= 2 and not done= 1. The percentage of the total score was computed. As a result, the actual performance level of women was classified as follows;

- Less than **50%** for poor practices
- **50% to 75%** for fair practices
- **75% or higher** for good practices.

Method

1. An official letter was issued by the Dean of the Nursing Faculty directing the study to the managers of obstetrics outpatient clinics and MCH centers.
2. The managers of obstetrics outpatient clinics and MCH centers were informed about the study's objectives to obtain their permission and cooperation during collecting the data from the previous settings.
3. Ethical and legal considerations: -

-The study was carried out with the permission of the ethical committee with the code of ethics No (134).

-All study women provided informed consent after being properly informed concerning the study's purpose.

- It was made clear to each participant that she could withdraw from the study any moment.
- The study's design didn't cause the subjects any hurt or discomfort.
- Data confidentiality and participant privacy was considered.

4. The researcher developed tools I, II, and III based on a review of related literature.
5. Tools of data collection were distributed to a jury of 5 academic expertise in maternity and community nursing department to test its face and content validity.
6. A pilot study was carried out by the researchers on 10% of women for evaluating the tools' clarity and applicability, as well as to identify potential obstacles that the researcher may face during data collection.
7. The researcher developed an educational booklet composed of theoretical part of four main breast problems (breast engorgement, cracked nipple, blocked milk ducts and breast mastitis) and practical part related to self-care practices for prevention of breast problems after delivery during breast feeding.
8. Prenatal educational program was included 3 sessions (two sessions for theoretical part and one session for practical part).
9. Each woman was interviewed individually in a suitable place in the mentioned settings.
10. The researchers met the participants three days a week. The number of women who can be interviewed daily was ranged from three to five women.
11. Each questionnaire took between 30 and 45 minutes to complete.
12. The duration of data collection took about 6 months from the beginning of January to the end of June, 2022.
13. The program was evaluated two times

-First time (pretest): before implementation of the health education program (Tool I and tool II)

-Second time (posttest): tool II assessed after finishing all educational program sessions, while tool III assessed two months following the start of the educational intervention for giving the studied women the opportunity after delivery to apply all self-care practices during breast feeding.

Statistical analysis:

The collected data were arranged, tabulated, and statistically examined using SPSS software (Statistical Package for the Social Sciences, version 26, SPSS Inc. Chicago, IL, USA) [(21).] For quantitative data, the range, mean, and standard deviation were calculated. The Chi-square test (2) was used to compare two groups and more for qualitative data, which characterize a set of categorical data by frequency, percentage, or proportion of each category. To compare the means of two groups of parametric data from independent samples, the t-test was used. To compare parametric data with more than two means, the F value of the ANOVA test was calculated. Pearson's correlation coefficient was used to investigate the relationship between the variables (r). For the

purposes of interpreting the results of tests of significance, highly significant was set at P 0.001, whereas significance was set at P 0.05.

Results: Table (1): Displays the distribution of the women under investigation in terms of their socio-demographic traits. Regarding age it was noted that only about half (40%) of the examined women their age below (> 25) and (36%) of the studied women varied from (25 to 35), with the moms' mean age being (26.3years). Around 78% of moms reported being housewives as their primary occupation. 40 percent of the mothers who were studied had a university degree. Nearly two thirds (64%) of the moms were found to reside in rural areas. greater than 50% (60%) of studied women married at age of 20-<25 with mean age of marriage **21.04±3.25.** Also regarding type of the family it was found that more than half (52%) of studied mothers were livings in nuclear family**.**

Table (2): Demonstrates the allocation of the women who were examined as the use of antenatal care. Regarding the initial antenatal visit time and the number of prenatal visits, the study's findings found that the majority (94%, 78%) of studied women respectively came to the visit in the first three months of pregnancy and had more than four antenatal appointments during her pregnancy. More than three quarters of them (78%) didn't Attended of antenatal care classes while only 22% attend to antenatal classes. Only 36% from the women who attend antenatal classes listen to breast feeding classes.

Figure (1): Illustrates knowledge of breast problems experienced by primipara women during breastfeeding before and after educational program, based on the distribution of the women studied. Before the implementation of a structured teaching program, nearly half (41%) of the studied women had limited knowledge of breastfeeding issues. However, after the introduction of a systematic education program, the majority (83%) of them had solid understanding. Knowledge of the moms was significantly more significant after the program than it was before. (p<0.001*).

Figure(2): Illustrates self-care practices of primipara women to prevent breast problems during breast feeding after educational program, The level of practice post-program showed a significant improvement (p0.001*). Mothers were more likely (85%) to have good practice than bad practice (4%) after the training.

Table (3): demonstrates the connection between the women's practice scores and total knowledge who were the subject of the study, A statistically significant distinction existed between practices and knowledge (p<0.001*). The table showed that post intervention, the majority (85%) of women had good knowledge and had good practice.

Table (4): The relationship between socio-demographic characteristics and mothers' overall knowledge of breast feeding problems is demonstrated. There were statistically significant differences in demographic characteristics such as age, age at marriage, residence, occupation, and education with mothers' knowledge

(p0.001*, p>0.001*, p0.004*, p0.007*, p0.008*), While there was no correlation between knowledge and mothers' family type.

Table (5): Illustrates the connection between socio-demographic characteristics of studied women and their self-care practices. Regarding their age and age at marriage it was showed that the vast majority (90%,70%)respectively women who have been studied with good practices has age 35 years or more and married at age of 25 years or more, about half (48.4%) of studied women with poor practices reside in rural area. Also the majority (90.9%) of studied women with good practices married since 15 years or more. It was discovered that the level of education that the majority of the study's poor-practicing women were illiterate. There was a statistically significant difference between mothers' self-care behaviours and socio-demographic factors such age, marriage age, domicile, length of current marriage, and education (p0.001*, p>0.001*, p 0.006*, p0.001*, respectively), While there was no association between mothers' self-care behaviours and their employment status or the nature of their family.

Table (6): Demonstrates a statistically significant positive correlation (r=0.624) between the study women's overall practices and their understanding of the subject. (r=0.624).

Table (1): Distribution of the studied women according to socio-demographic characteristics (n=100).

socio-demographic traits	N=100	%
Age (years)		
<25	40	40
25- <30	36	36
30- <35	14	14
35 or more	10	10
Mean±SD	**26.3±4.96**	
Residence		
Urban	36	36
Rural	64	64
Age at marriage (years)		
<20	30	30
20- <25	60	60
25 or more	10	10
Mean±SD	**21.04±3.25**	
Duration of current marriage (years)		
<5	54	54
5- <10	20	20
10- <15	15	15
15 or more	11	11
Mean±SD	**6.03±5.66**	
Education level		
Illiterate	4	4
Read & Write	16	16
Primary school	14	14
Secondary school	26	26
College	40	40
Occupation		
House wife	78	78
Worked	22	22
Type of family		
Nuclear	52	52
Extended	48	48

Table (2): Distribution of the studied women according to the use of antenatal care (n=100).

Use of antenatal care	N=100	%
Time of initial antenatal visit		
In pregnancy's first three months	94	94
The second three months of pregnancy	4	4
The last pregnancy of three months	2	2
Number of prenatal appointments		
Less than4 times	22	22
More than 4 times	78	78
Place of antenatal care		
Governmental hospitals	42	42
private hospitals	28	28
Health Centers / Maternal and Child Health Care Centers	30	30
participation in prenatal classes		
Yes	22	22
No	78	78
If yes, what will be covered in the health education classes?		
pregnancy-related nutrition	10	45.5
regular monitoring during pregnancy	6	27.3
Pregnancy and vaccination	12	54.5
Personal Hygiene during pregnancy	6	27.3
Rest and Sleep during pregnancy	2	9.1
Preparation for delivery	4	18.2
Breast feeding	8	36.4
All of the above	6	27.3

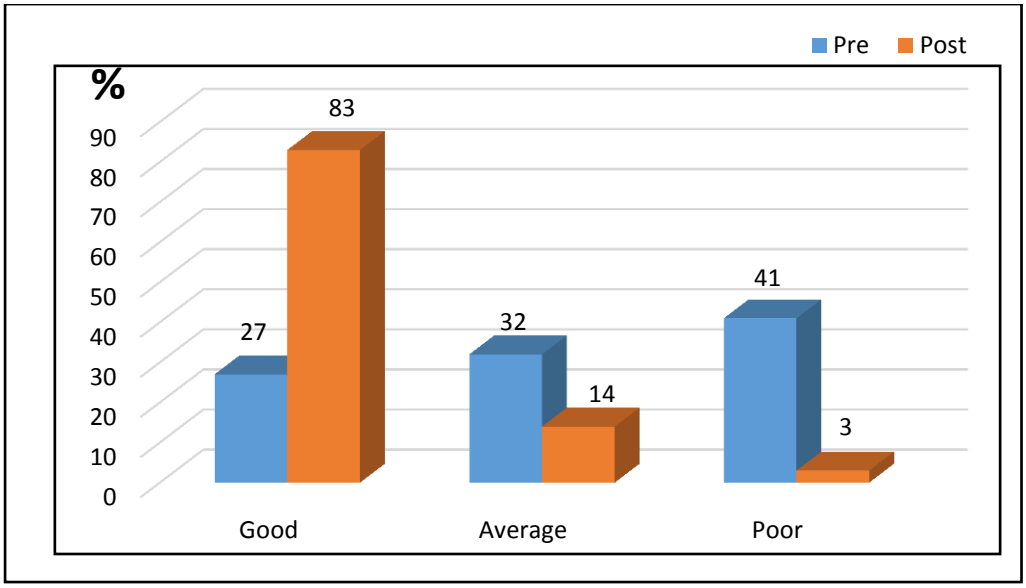

Figure (1): Distribution of the studied women according to their knowledge about breast problems during breast feeding before and after educational program (n=100).

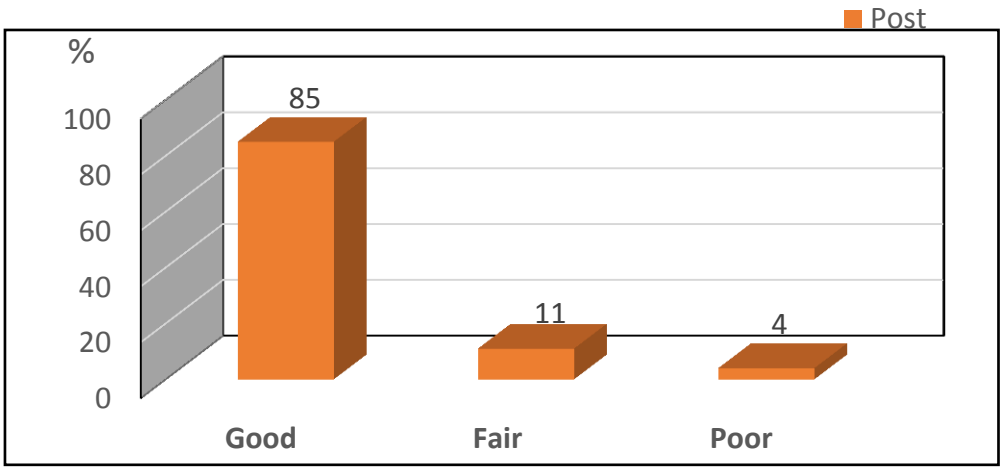

Figure (2): Distribution of the studied women according to their Self-care practices to prevent breast problems during breast feeding after educational program (n=100).

Table (3): Relationship between the studied women overall knowledge score and their overall practice score (n=100).

Total practice	Total Knowledge									
	Good		Average		Poor		Total		Chi-square	
	N	%	N	%	N	%	N	%	X^2	P-value
Post										
Good	78	78	7	7	0	0	85	85	36.239	**<0.001***
Fair	4	4	5	5	2	2	11	11		
Poor	1	1	2	2	1	1	4	4		
Total	83	83	14	14	3	3	100	100		

Table (4): The association between the studied women's knowledge and their demographic characteristics.(n=100)

Items	Total Knowledge							
	Good		Average		Poor		Chi-square	
	N	%	N	%	N	%	X^2	P-value
Age (years)								
<25	0	0.0	8	20.0	32	80.0	57.518	**<0.001***
25- <30	11	30.6	16	44.4	9	25.0		
30- <35	8	57.1	6	42.9	0	0.0		
35 or more	8	80.0	2	20.0	0	0.0		
Residence								
Urban	13	36.1	16	44.4	7	19.4	10.826	**0.004***
Rural	14	21.9	16	25.0	34	53.1		
Age at marriage (years)								
<20	1	3.3	5	16.7	24	80.0	31.044	**<0.001***
20- <25	20	33.3	24	40.0	16	26.7		
25 or more	6	60.0	3	30.0	1	10.0		
Duration of current marriage (years)								
<5	2	3.7	15	27.8	37	68.5	46.877	**<0.001***
5- <10	10	50.0	8	40.0	2	10.0		
10- <15	8	53.3	6	40.0	1	6.7		
15 or more	7	63.6	3	27.3	1	9.1		
Education level								
Illiterate	0	0.0	0	0.0	4	100.0	20.662	**0.008***
Read & Write	4	25.0	0	0.0	12	75.0		
Primary school	3	21.4	5	35.7	6	42.9		
Secondary school	8	30.8	12	46.2	6	23.1		
College	12	30.0	15	37.5	13	32.5		
Occupation								
House wife	20	25.6	20	25.6	38	48.7	9.874	**0.007***
Worked	7	31.8	12	54.5	3	13.6		
Type of family								
Nuclear	13	25.0	14	26.9	25	48.1	2.356	0.308
Extended	14	29.2	18	37.5	16	33.3		

Table (5): The relationship between the investigated women's demographic traits and their self-care practices (n=100).

Items	Total practice							
	Good		Fair		Poor		Chi-square	
	N	%	N	%	N	%	X^2	P-value
Age (years)								
<25	5	12.5	12	30.0	23	57.5	35.933	**<0.001***
25- <30	8	22.2	14	38.9	14	38.9		
30- <35	7	50.0	7	50.0	0	0.0		
35 or more	9	90.0	1	10.0	0	0.0		
Residence								
Urban	13	36.1	17	47.2	6	16.7	10.159	**0.006***
Rural	16	25.0	17	26.6	31	48.4		
Age at marriage (years)								
<20	4	13.3	5	16.7	21	70.0	28.172	**<0.001***
20- <25	18	30.0	28	46.7	14	23.3		
25 or more	7	70.0	1	10.0	2	20.0		
Duration of current marriage (years)								
<5	4	7.4	17	31.5	33	61.1	49.304	**<0.001***
5- <10	8	40.0	8	40.0	4	20.0		
10- <15	7	46.7	8	53.3	0	0.0		
15 or more	10	90.9	1	9.1	0	0.0		
Education level								
Illiterate	0	0.0	0	0.0	4	100.0	32.665	**<0.001***
Read & Write	4	25.0	1	6.3	11	68.8		
Primary school	2	14.3	2	14.3	10	71.4		
Secondary school	10	38.5	12	46.2	4	15.4		
College	13	32.5	19	47.5	8	20.0		
Occupation								
House wife	23	29.5	26	33.3	29	37.2	0.078	0.962
Worked	6	27.3	8	36.4	8	36.4		
Type of family								
Nuclear	13	25.0	17	32.7	22	42.3	1.477	0.478
Extended	16	33.3	17	35.4	15	31.3		

Table (6): Correlation between total practices and total knowledge among the studied women (n=100)

Total practice	Total Knowledge	
	r	P-value
Post	0.624	**<0.001***

Discussion

Pregnancy-related changes might impact the body in ways that can affect the breasts. The second and third trimesters are when these issues are frequently observed. For new mothers, it is challenging to exclusively breastfeed continuously for six months. The majority of breastfeeding issues are brought on by inappropriate posture and poor latch-on techniques [22, 23]. In the current study, concerning socio-demographic traits of the population under study primipara in terms of age, it was discovered that less than half (40%) of the studied women their age below (> 25) and (36%) of the studied women ranged from (25 to 35), with the mothers' average age being (26.3years), This is nearly in the same line with **Thilakavath., (2019),** who discovered that the majority of respondents (58.3%) are between the ages of 21 and 25, 30% are between the ages of 26 and 30, and 11.7% are over 30 [19].

Over half (52%) of the analyzed women in the current study were found to be living in nuclear families, which is in line with **Aneesha et al., (2019)** [24] who stated that fifty percent of the ladies in the study are from nuclear families. However, the outcome is incompatible with **Hassan et al., (2020)** [25] who stated that the vast majority of women in the study came from extended families. This may be explained by the disparity in practices and beliefs across the study's contexts, as individuals in Upper Egypt prefer extended families to minimize family problems, while those in Lower Egypt favour nuclear families.

The current study found that, the length of the current marriage and the age at marriage for women, the mean ages at marriage were 21.04±3.25 and the average length of a current marriage was 6.03±5.66**.** These outcomes are nearly identical with **Hassan et al., (2020)** [25] who explained that the average age of marriage for the investigated women was 21.62 ± 6.25 years and the length of the present marriage was 4.05 ± 3.05.

The recent study indicated that the vast majority of women were housewives in terms of their occupation. This result agrees with **Prasad et al., (2017)** [26]. who claimed that most of the female subjects were housewives, However, these results run counter to those of **Abd El-Salam and Ashour (2020)** [27] who showed that the bulk of the study's female participants had jobs. This might be as a result of the fact that the bulk of the women in the study had little formal education and are from the countryside, which restricts their work options.

In addition, it was found in this study that around two thirds (64%) of the women in the study had a high school education, and fewer than half (40%) of the moms had a college degree. Additionally, more than half (55%) of the mothers lived in rural areas. (60%) of them married at age of 20- <25. These results come in line with **Abd El-hady et al., (2021**) [22] Researchers discovered stated the average age of marriage was 22.94 years 4.08, with approximately 75% of women being married between the ages of 18 and less than 25. Additionally, they found

that just under three-fifths of the women (56.0%) were from the countryside. Furthermore, this result was consistent with **Abdallah et al., (2018)** [28] the bulk of the women they looked at were from rural areas, according to researchers who evaluated nipple and breast issues in primiparous puerperal women in Zagazig.

The majority of the study's participants (94%, 78%) came to the appointment during the first three months of pregnancy and more than four prenatal appointments throughout the course of the pregnancy, according to the findings regarding the timing of the initial antenatal visit and the total number of antenatal visits. The current study's findings are consistent with **Hassan et al., (2019)** [29] according to their claims, the majority of the study's participants received antenatal care in the first trimester and underwent more than four visits throughout their pregnancies.. Conversely, this result is in opposition to **Hassan et al.,** [25] who brought up the fact that almost two thirds of women lacked prenatal care. This may be because Upper Egypt lacks health centre services that offer prenatal care to pregnant mothers.

Nearly half of the study's female subjects received their prenatal care at government institutions. This discovery is consistent with **Varghese B and Patwa A (2020)** [30] who said that for antenatal care, the majority of women visited government hospitals. Pertaining to prenatal care class attendance; the recent study found that just 36% of women who attended antenatal classes actually delivered a baby listened to classes on breastfeeding. The majority of the women did not attend antenatal care classes. These findings are backed up **by Prasad et al., (2017)** [26] they shown a serious lack of knowledge on the health information provided during antenatal appointments. These findings are also consistent with **Karatay et al., (2018)** [31] they pointed out that the majority of women didn't obtain breastfeeding-related health information during their antenatal consultations. This outcome is acceptable since women made up the bulk of the study participants were stay-at-home mothers who lived in rural areas and lacked awareness of the challenges associated with breastfeeding and how to manage them.

In this study according to knowledge of primipara women about breast problems during breast feeding before and after educational program, Prior to the implementation of a structured teaching program, nearly half (41%) of the studied women had poor knowledge of breastfeeding problems. However, after a structured teaching program was implemented, the majority (83%) of them had good knowledge. However, a study conducted by **Thilakavath K, (2019)** [19], found that in the pre-test, 90% of primigravida mothers had an overall inadequate knowledge score about breastfeeding problems, while 10% of primigravida mothers had moderately adequate knowledge. The majority of the mothers had insufficient knowledge about breastfeeding issues, which can be deduced. According to the post-test knowledge score for

breastfeeding problems, 16.7% of primigravida mothers had moderately adequate knowledge and 83.3% had adequate knowledge following the structured teaching program, indicating a significant improvement in knowledge.

Furthermore, there was a highly statistically significant relationship between the mothers' understanding of (breast engorgement, cracked nipple, breast mastitis, breast abscess, and inverted nipple) post-program compared to pre-program. The findings of this study are nearly same to those of a study on the impact of a breast-feeding education program on knowledge and practices among primipara moms conducted by **Tamilarasi B (2014)** [32] who found that in pretest (18.3%) mothers were having inadequate knowledge, (73.3%) of them were having moderately adequate knowledge. This study's findings are also comparable to **Sunita K., and Deepika R (2020)** [33] and **Hemavathy et al., (2019)** [31], who claimed that women's knowledge of breast engorgement was lacking. However, the outcomes were in conflict with **Aneesha et al., (2019)** [24] who claimed that the majority of women were well-informed.

Regarding distribution of the studied women's level of self-care practices to prevent breast problems after implementation of educational program. It was found that post program implementation only 4% of mothers were having poor practices, (11 %) of them were having fair practices and (85%) of them were having good practices. Theses study results nearly equal to study done on Breast feeding training program effectiveness on knowledge and practise among primipara mothers by **Tamilarasi B (2014)** [34] who discovered that (68.3%) of mothers had poor practice, (31.7%) had average practice, and none had good practice in preprogram. However, after programme implementation, none of the mothers had poor practice, 13.3 percent had average practice, and 86.7 percent had good practice. This demonstrates the effectiveness of the breast feeding training program. This had increased the number of primipara mothers who breastfed. Additionally, these outcomes matched **Aalrazek A (2013)** [35] who noted a substantial correlation between the study women's educational degree and their performance score in terms of postpartum self-care.

Age, age of marriage, place of residence, and length of current marriage were socio-demographic factors that differed statistically significantly. Education and family income with mothers self-care practices ($p<0.001$*, $p>0.001$*, $p< 0.006$*, $p<0.001$*, $p<0.001$*, $p<0.003$*) respectively. While there was no relation between mothers self-care practices with mothers' occupation and type of family. Theses study findings contradicted with **Tamilarasi B (2014)** [34] who reported no relationship between pretest practice level and demographic factors. Additionally, after completing a program of study, the examined women's practices and knowledge showed a statistically significant

beneficial connection (r=0.624). In contrast these findings align with those of the research done by **Pardeshi et al., (2019)** [36], who stated that there was a statistically significant association between women's overall knowledge and occupation, and whose conclusions disagree with those of the current study. Also **Aneesha et al., (2019)** [24] who stated that there were no conclusive links between women's total knowledge scores and their career. The results of this study also ran counter to those of **Tamilarasi B. (2014)** [34] who claimed that there was no link between their pre-test knowledge level and their demographic characteristics

Finally, designing and implementing an appropriate educational program results to increased knowledge, improved attitude, and improved performance of women in preventing and effectively resolving breast problems during breastfeeding. [20].

Conclusion

It is possible to conclude that scores of knowledge were enhanced significantly after the administration of prenatal educational program. As a result, prenatal educational program was founded to be effective in improving primiparaous women's knowledge and self-care practices regarding breastfeeding problems. So, the aim was achieved and study hypothesis was supported and accepted.

Recommendations

Based on the findings of the present study, the following recommendations are suggested:

1. Replication of the study on large sample size in different settings for generalization of the results.
2. Developing antenatal education programs for all pregnant or primiparous women to improve their understanding of breast problems during breast feeding and self-care habits.
3. Further research studies are needed in this field to develop and implement evidence based guidelines program to primiparous women with breast problems during breast feeding.

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