Effect of Early Initiation of Breast Feeding on the Prevention of Postpartum Depression among Puerperal Women: An Interventional Program.

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Abstract

Background: Early initiation of breast-feeding produce hormones that improve the mood of the mothers and reducing the risk of depression among them. It is one of the steps introduced by WHO\UNICEF's Baby Friendly Hospital Initiative (BFHI). **Aim of the study:** to evaluate the effect of early initiation of breast-feeding on the prevention of postpartum depression among puerperal women through an interventional program. **Design**: A Quasi-experimental design was utilized. **Setting:** This study conducted at university hospitals in one governorate of Delta region in Egypt. **Sample:** Simple random sample was used in this study. **Three Instruments** were used for data collection, an interviewing questionnaire, Edinburgh Postnatal Depression Scale (EPDS), and Checklist of early initiation of breast-feeding for the Puerperal women. **Results:** There was high (SSD) related to the scores of Edin-burg scale after applying the intervention program about early initiation of breast-feeding. In addition, there was an improvement in the scores of the women during breast feeding steps. **Conclusion:** intervention program about early initiation of breast-feeding succeeded in raising Edinburgh (EPDS) scores of puerperal women and in doing breast-feeding early during early post-partum period. **Recommendations:** Encourage all women to breast feed early as possible after labor, screening all women for postnatal depression and anxiety during post-partum. Future studiesare recommended on a large sample of puerperal women to be able to generalize the study results.

Key words: postpartum depression (PPD), early initiation of breast feeding, & puerperal women

Introduction

Post-partum period stays a very special phase in woman life. Puerperal women's body wants to restore and convalesce from gestation and delivery ***(Ali,& Fadhil, 2016)***.Transition to motherhood is very critical period for the puerperal women, it make them more vulnerable to mood disturbances like postpartum depression(PPD). ***(Eddy B, et al. (2019).& Alba M.,B., (2021)*** **.**Early initiation of breast-feeding within thirty minutes of delivery considered the first step introduced by WHO\UNICEF's Baby Friendly Hospital Initiative (BFHI) to accomplish a successful breastfeeding of the baby. First breast-feeding suggested to be started within the first minutes of life, breast-feeding on demand depends on the child needs ***(WHO, 2015, Ebrahem et al., (2019).***

The prevalence and length of early breast feeding (EBF) immediately after birth is vary among countries. In

some countries, it is as low as 1.9%, while in other countries as high as 62% ***(Jones et al., 2011).*** Studies demonstrated that mother age, education, number of children, type of delivery, mother's information regarding the advantage of breastfeeding, birth conditions, baby's gender and the attitude towards breastfeeding were positively associated with EBF. While smoking during pregnancy, low birth weight, pacifier use, caesarean birth, infant's admission to the critical health care units and mothers who returned to work before six months of infant's age had a negative effect on the EBF in addition to woman's intention to breast feed of her baby **(Boccolini et al., 2015; Alyousefi et al., 2017; &Borra,lacovou,&Seville, 2015).**

Postpartum depression (PPD) is an episode of depression that occurs from 4-6 weeks postpartum manifested by feeling of sadness, lack of enjoyment in maternal role, disinterest and negative feelings toward the new infants, guilt feelings about parenting ability, poor concentration, and insomnia. Sometimes it is defined as a thief that steals motherhood. ***(Dansabe & Elias, 2016).*** Postpartum depression is an enervating condition considered by some feelings like extreme sadness, anxiety, despair, irritability, anger, indifference, loss of pleasure, and hopelessness among puerperal women. ***American Psychiatric Association (2013).*** In addition to that woman's eating, sleeping, and cognitive focus are changes which are common during this stage. ***Alba M., B., (2021)*** .While ***(Falah-Hassani et al.,& Woody et al., 2017)*** assured that, Postnatal depression and/or anxiety influenced between 10% to 20% of all puerperal women.

Women who had hurt from PPD (10-20%) are much new possible to have depression again in subsequent frequencies by about 50-100%. Previous studies reported that PPD affects approximately one in every seven new mothers. It is gradual onset more during the first 4-6 months following the delivery or abortion Additionally it is the leading cause of suicide among postpartum women in Nigeria ***(Ekwerike, 2015, Dansabe & Elias, 2016)***.

The prevalent rate of postpartum depression is higher among the debilitating and less privileged mothers in the developing nations, as it is ranging from 16% to 35% ***(Chibanda, D., et al., (2020).*** Postpartum depression in northern Nigeria has been described to be the higher prevalent rate (44.5%) in the clinical situation ***Alba M.,B., (2021)***. There is a debate about the causes of post-partum depression. Some scientists considered the hormonal changes which associated with childbirth specifically the sharp drop in the circulating progesterone during the puerperium period is the cause of PPD ***(Nijhawan, et al., 2018, Hirani, & Bala 2015).*** Along with ***Singh et al (2019)*** classified post-partum depression into three classifications according to its ascending level of severity. These are maternity blues, postpartum depression, and psychotic depression. Depression and psychosis (psychotic depression) existing dangers in both the mother and her infant so, making early diagnosis and treatment

are very important *(**Nijhawan, et al., 2018).***

Significance of the study:

Previous studies explored that, the association between breastfeeding and postpartum depression was assumed to be one-directional, as PPD resulting among women who initiating early breastfeeding. While others indicated that, the relation between PPD and initiating early breastfeeding may be bi-directional in nature. Therefore, it had been extremely difficult to identify whether the relation between BF, & PPD are causal or opposed to arising because of woman who breast feed her newborn had minor threat of depression. Additionally, some evidence assured that breast feeding may guard against PPD or immediate recovery from symptoms ***Figueiredo, Can´ario, and Field, (2014) & Alba M.,B., (2021).***

Post-partum Depression (PPD) had major consequences on the mothers, and their newborn besides their partners who may feel neglected and annoyed of the baby, in other words, partner relationships are adversely affected. Furthermore, maternal psychological health also affected especially after decreasing their abilities to bond their newborns, which may cause delayed in infants development ***(*Danasabe, &Elias, 2016, *Eddy B, et al. (2019).*** *So,* Nursing education, counselling, and practice regarding the benefits of the early initiation of breast feeding from the start of pregnancy until post-partum is very important and effective for physical and mental health for the women and their newborns.

Purpose of the Study:

To evaluate the effect of early initiation of breast feeding on the prevention of postpartum depression among puerperal women through an interventional program.

Research Hypotheses:

1- Women who received the intervention program started breast-feeding earlier than those who don't.
2- Women who received the intervention program had lower scores in (Edinburgh Postnatal Depression Scale) than women in the control group.
3- Women who received the intervention program had higher observational scores during breast feeding procedure than women in the control group.

Research Design:

A quasi-experimental design was used to conduct this study. Using two groups (experimental, and control group)

Research Settings:

The study was conducted at Maternity units at Universities Hospital, in one Governorate of Delta region in Egypt. These hospitals affiliated to the Ministry of Health and provide free maternal health services for all women as well as other specialty in medicine.

Sampling:

Simple random sampling technique was used to divide 200 women randomly selected into two equal groups;(intervention and control group 100 cases for each).

Inclusion criteria: Normal full-term pregnancy women, willing to

participate in this study and not suffer from psychological disorders.

Exclusion criteria; high risk pregnancy e.g; (PIH, DM. Preterm labor,), women suffering from psychological disorders, and women who not welling to participate in the study were excluded.

Sample size:

A total of (200) puerperal women were selected according to the following statistical formula n = Z2p (1-p) /d2, where z = level of confidence according to the standard normal distribution (for a level of confidence of 95%, z = 1.96). p = estimated proportion of the population that presents the characteristic (when unknown we use p = 0.5), d = (d is considered 0.05).

Tools: Three main tools were used for collecting the data.

Tool I; An interviewing questionnaire. It involved two main parts

part one: Contained 4 questions about personel data (age,job, place of residence, & educational levels). As well as obestetric profile(6 questions for gravidity, parity,no of abortion and childeren, gestational age, complications of the current pregnancy).

Part two: including inforamtion about; mode of delivery, time of starting of breast feeding and and obestecles.

Tool 2; Edinburgh Postnatal Depression Scale (EPDS)

This scale **is** a set of 10 screening questions that can indicate whether a mother has symptoms that are common in mother with depression and anxiety during pregnancy and sometimes in the year following the birth of a child. **(Cox, Holden & Sagovsky, 1987).** EPDS is a screening tool for detection of PPD. It has the advantage of being the first scale developed specifically for PPD screening and has been used for more than 20 years in both research and clinical settings. Its score is ranged from zero to 30.

Scoring system: the total scores was categorized into three categories, ***Mild degree,*** when the women had (<9 scores). ***Moderate degree*** *when* the women had from (9 - 12 scores). ***Sever degree*** *when* the women had (≥13 scores).

Tool 3; Chicklist scores of early initiation of breast-feeding.

It assess women during breast feeding after application of the intervention progam It is composed of 26 items about breast feeding these steps divided into three phases for breast feeding The **preparatory phase**; (7 times), **during breast feeding phase**; (12 items), and **after breast feeding phase** (7 items). The women should be instructed that, the infant should be awake and dry before starting the breast-feeding and so on.

Scoring system: the total scores of the breast-feeding Chicklist for the women after the intervention program were submitted and divided into four categories. ***Not satisfactory level;*** when the scores of the women less than 29. ***Fair level;*** when the scores of the women (from 30 to 35). ***Partly satisfactory level;*** when the scores of the women (from 35- to 40). ***Satisfactory level****;* when the scores of the women (more than 40).

Validity and reliability of the instrument: Instruments I & III were developed by the researchers after extensive literature review and tested for content validity by a jury of five experts in maternity health nursing and pediatric health nursing to reach to agreement about the finest form to be implemented. Modifications were carried out according to the panel decision on clarity of wards and suitability of the content. Tools were assessed by applying the questionnaires using test–retest reliability. In addition, through Cronbach's alpha test α= 0. 89 in the first tool, and the third tool was 0.86.

Ethical considerations:

Primary approval was obtained from research ethic committee in the nursing college to conduct the study, with explanation of the aim and the importance of the study to the hospital's authorities. Also, written approval permission was obtained from the administrator of each target settings included in the study. Women were required to provide written informed consent prior to study enrolment. The objectives and the nature of the study were explained to the participants. The researchers were emphasized on the participation in the study was voluntary, anonymity and confidentiality were assured.

Pilot study:

A pilot study was carried out after the development of the tools. It was conducted on 10% of the study sample about 10 women (excluded from the study sample) to test reliability and applicability of the tools of this study.The necessary modifications were done based on the result of the pilot study.

Study fieldwork: The researchers collected data from the previous mentioned places, Data collection were pooled for a period of 8 months from May 2021 to December 2021 three days/ week. This study was carried out through three succeeding phases: interviewing & assessment phase, implementation phase and evaluation phase.

The interviewing and assessment phase:

In this phase, the researchers clarified the aim of the study, instruments components, and made schedule for following up the women until the time of delivery for both groups **(the control and the study).** The time needed for completing the questionnaire was ranged from 30 - 45 minutes for each woman.

The implementation phase:

- In this phase, the selected women who were recruited are randomly assigned to two equal groups (100 women per each). The first group (100) women were the control group which received the routine antenatal and hospital postpartum care after delivery.
- The participants in the study/intervention group (100) were interviewed alone by researchers in the late third trimester of pregnancy and in the ante-natal room before giving birth. The steps of the intervention program for early breast-feeding were explained and started immediately after delivery.
- The intervention program included two sessions / week including 5-8

women in each session for pregnant women in late pregnancy and repeated throughout the first stage of labour. Each session handled the ideal steps of breast feeding and optimal procedure in competent level using power____point presentation, illustrating pictures of the correct positions for breast feeding and clinical videos/films to teach the correct steps for the mothers. Each session lasted from 20- 30 minutes.

The evaluation phase:

It was concerned on identifying to what extend the mothers understand the content of the intervention program and applying its steps in a competent level about starting early breast feeding among the interventional group. In addition to calculate Edinburgh Postnatal Depression scores for each puerperal women in both groups at the end of the first week post-delivery in addition to routine postpartum follow-up.

Statistical analysis:

The collected data were scored, tabulated, and analyzed using (SPSS) version 23. It was presented in tables and graphs using the actual numbers and percentages. The presumptions of parametric procedures counting normality, independency, and homogeneity were tested to certify that they were not unsettled. Appropriate statistical tests were used to analyze the data as, chi-square test (χ 2), the level of significance was set at $p < 0.05$.

Results

Table (1): showed that distribution of demographic characteristics among studied sample. Women's age ranged from (18 - 47) years old, and near to one half (46%) was within thirty to forty years old. About three quadrants (74%) of the sample were housewives &the same percentage lived in rural areas. Concerning level of education, more than half of the sample (59%) had bachelor's degree.

Table (2): displayed the distribution of the studied women according to reproductive parameters. Majority of the women (84%, &85%) were multi-gravida &para respectively. Also (81%) of the women had more than three children. The mean gestational weeks among women in the control and the study group were (38.04 ±5.61 & 38.02 ±6.36) weeks respectively. Relating to Pregnancy complications, minority of women (16%) had complications during the current pregnancy. More than one half of the sample (54%) had normal vaginal deliveries.

Figure (1): clarified the time starting initial breast feeding after delivery among studied women. Although three quadrants (76%) of the study group started initial breast feeding within first two hours immediately after delivery compared to only one half (54%) of the control group, but also one quadrant (26%) of the control group started initial breast feeding during the first 24hurs postpartum. Very low percentage (2%) of the study group started initial breast feeding after 48 hours post-partum compared to (16%) among the women in the control group.

Figure (2): illustrated the sources of knowledge about breast feeding among studied women. The nurse and the doctor were the main source of knowledge about breast feeding among

the studied women (31% & 24%) respectively.

Table (3) :clarifies the obstacles of early initiation of breast feeding among studied women. Pain after labor, and Fatigue &exhaustion were the most common obstacles of breast feeding among the studied women. (92% & 69%) respectively. Relating to Working mothers' obstacles, there were another obstacle like Fear of milk infection, and return to work (24%, & 15%) respectively.

Figure (3): showed the categories of EPPD scores among studied women. Majority of women (81%) of the study group had mild degree (less than 9 scores) compared by (70%) of the control group. While very low percent (3%) of the study group had severe degree (≥ 13 scores) compared by (15%) in the control group. There were high statistically significant differences with (P<0.0001) between both groups.

Table (4) showed significant positive correlation between time of starting early initiation of breast-feeding and total Edinburgh postnatal depression scores (EPDS) as women increase the start early initiation of breast feeding immediately after birth, the total score of Edinburgh postnatal depression scores (EPDS) decrease with (P<0.000* **).**

Table (5):highlighted that observational scores of the women during breast feeding after the intervention programs among the study women. The women's score was improve among the study group than in the control one (43.90 ±8.41), & (36.16 ± 4.437) respectively. Also, there were high statistically significant differences with (P<0.000*) between the control and study groups regarding the total observational scores of the puerperal women.

Fig.(4): displayed the total observational scores among the studied women after implementation of the intervention program. Majority of the women in the study group (84%) had **satisfactory level** in implementing all steps of breast-feeding correctly than among women in the control group only (5%). As the result of intervention program implementation, there were high statistically significant differences with (P<0.000*) between the puerperal women in the control and study groups.

Table (1): Distribution of Demographic Characteristics of Studied Groups (n=200).

Personal Characteristics	Control Group (n=100)		Study Group (n=100)		Total (n= 200)	
	F	%	F	%	F	%
Mean age (years) **Range**	**30.32 ± 5.63** **(18-39)**		**30.98 ± 6.74** **(19-47)**		**30.65 ± 6.20** **(18 - 47) years**	
Age grouping:						
▪ Less than 20 years old.	2	2%	2	2%		
▪ From 20- Less than 25. years old	26 18	26% 18%	24 24	24% 24%	4 50	2% 25%
▪ 25-Less than 30years old.	42	42%	50	50%	42	21%
▪ 30- Less than 40 years old.	12	12%	0	0%	92	**46%**
▪ More than 40years old.					12	6%
Job:						
▪ Work.	26	26%	26	26%	52	
▪ Do not work.	74	**74%**	77	74%	148	26 % 74%
Place of residence:						**74%**
▪ Rural.	72	72%	76	76%	148	26%
▪ Urban.	28	28%	24	24%	52	
Level of education:						
▪ Illiterate.	8	8%	6	6%		
▪ Read &write.	14	14%	10	10%	14	**7%**
▪ Secondary school.	28	28%	16	16%	24	12%
▪ High level (bachelor's degree).	50	50%	68	68%	44 118	22% **59%**

Table (2): Distribution of the Studied Women according to Reproductive Parameters (n=200).

Parameter	Control Group (n=100)		Study Group (n=100)		Total (n= 200)	
	F	%	F	%	F	%
Gravidity.	12	12%	20	20%	32	16%
▪ **< 3.**	88	88%	80	80%	168	**84%**
▪ **> 3.**						
Parity.						
▪ **< 3**	12	12%	18	18 %	30	**15%**
▪ **> 3.**	88	88%	82	82 %	170	**85%**
Number of children.						
▪ **< 3.**	88	88%	26	26 %	38	**19%**
▪ **> 3.**	12	12%	74	74 %	162	**81%**
Gestation age in weeks (Mean ±SD)	**38.04 ±5.61**		**38.02 ±6.36**		**38.03± 5.98**	
Pregnancy complication:	12	12%	20	20%	32	**16%**
▪ Yes.	88	88%	80	80%	168	**84%**
▪ No.						
Method of delivery:						
a. Caesarian (CS).	42 %	42 %	50	50%	92	**46%**
b. Normal (NVD)	58 %	58%	50	50%	108	**54%**

Fig. (1) Time of Starting Initial Breast Feeding After Delivery among Studied Women (n=200).

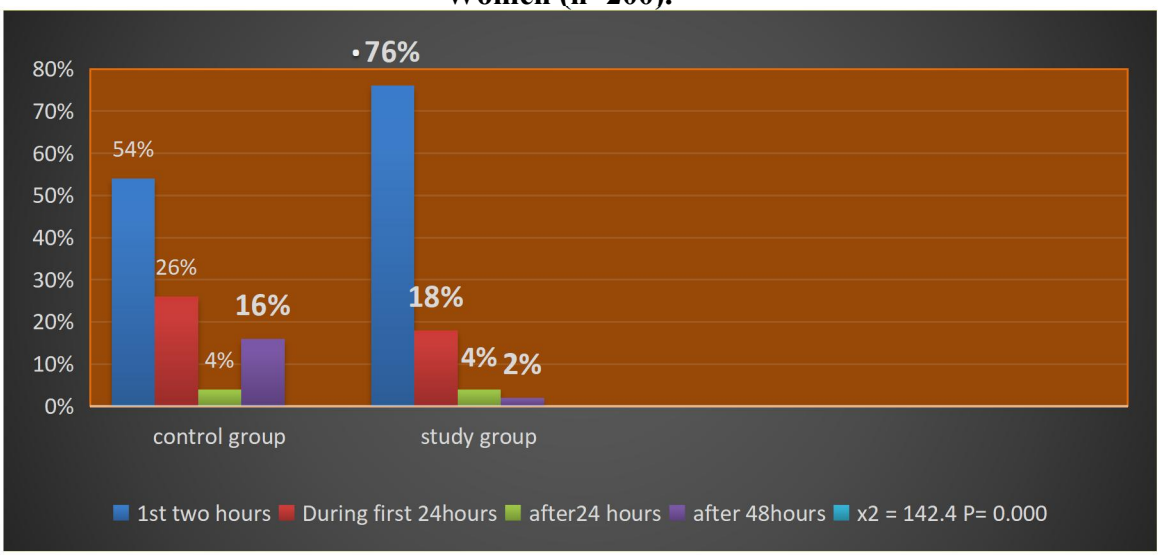


Fig. (2): Sources of knowledge About Breast Feeding Among Studied Women (n=200).

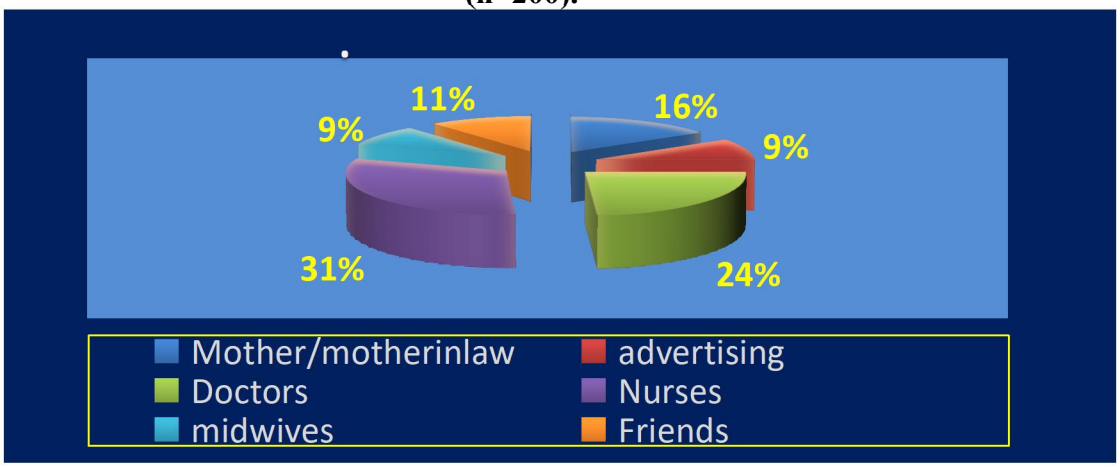
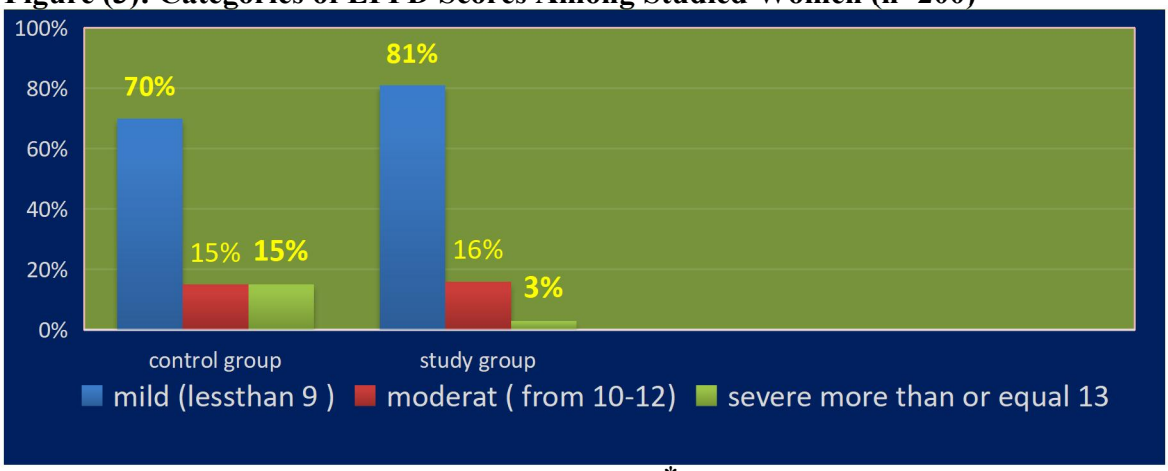


Table (3): Distribution of Obstacles of Early initiation of Breast Feeding among Studied Women (n=200)

Obstacles of Breast Feeding:	Control Group(n=100)		Study Group (n=100)		Total (200)	
	F	%	F	%	F	%
General obstacles:	88	88%	96	**96%**	184	**92%**
▪ Pain after labor.						
▪ Fear on general appearance.	70	70%	26	26%	96	48%
▪ Low milk.	52	52%	44	44%	96	**4%**
▪ Ashamed from BF.in front of others.	4	4%	52	52%	56	28%
▪ Fatigue &exhaustion.	68	68%	70	70%	138	**69%**
▪ Newborn health problems.	12	12%	36	36%	**48**	**24%**
Working mothers' obstacles:						
• Return to the work.	14	14%	16	16%	30	**15%**
• No sufficient time to empty the breast.	22	22%	20	20%	42	**21%**
• Fear of milk infection.	34	34%	14	14%	48	**24%**
• Difficulty of returning to home during work hours.	32	32%	12	12%	44	22%

Figure (3): Categories of EPPD Scores Among Studied Women (n=200)



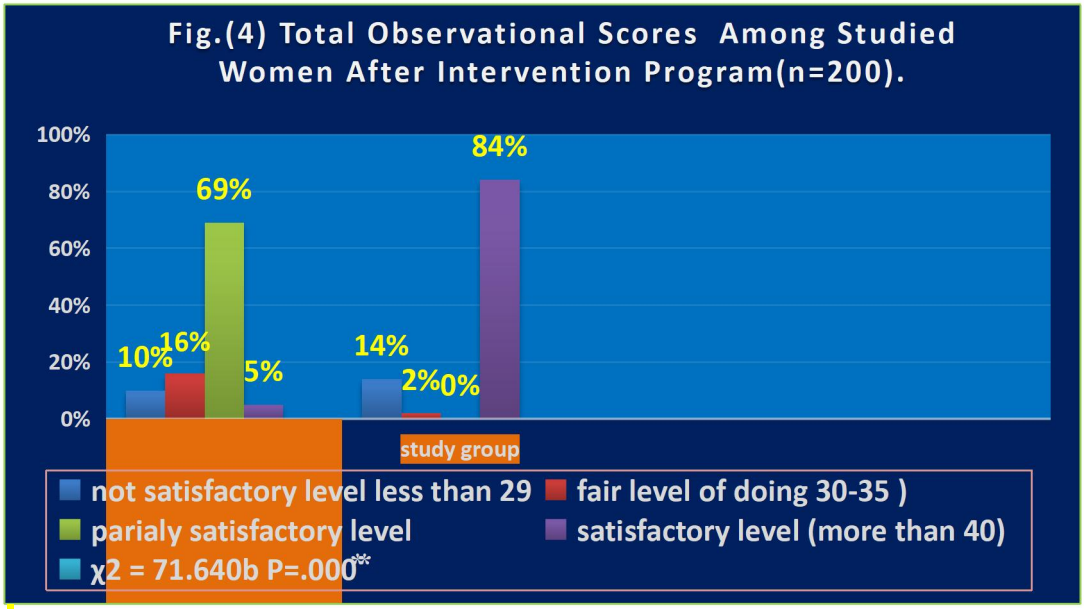
$\chi 2 = 161.29$ P=.000*

Table (4): Correlation Between Total Edinburgh Postnatal Depression Scores (EPDS) and Starting Time of Early Initiation of Breast Feeding (n=200).

	Control Group(n=100)	Study Group (n=100)
	r value (p value)	r value (p value)
Time of Starting of early initiation of breast-feeding.	-.002- (.987)	.2100 (.036)*

Table (5): Observational check-list scores of the Women during Breast Feeding after the Intervention Programs among the Study Women (n=200)

Steps of breast feeding:	Control Group(n=100)		Study Group(n=100)		Test	P Value
	Didn't done	Done	Didn't done	Done		
Preparatory phase:	68%	32%	40 %	60%	$\chi2$ = 1.2	P=.25
1- Hand washing.	54%	46%	12%	88%	$\chi2$ =23.1	P=.000*
2- Newborn hungry.	52%	48%	12%	88%	$\chi2$ =25.9	P=.000*
3- Newborn awake and dry.	54%	46%	14%	86%	$\chi2$ =20.4	P=.000*
4- Newborn cloths clean and comfortable.	58%	42%	14%	86%	$\chi2$ =15.6	P=.000*
5- Sitting place calm.	56%	44%	14%	86%	$\chi2$ =18.0	P=.000*
6- Sitting in comfortable place and position.						P=.000*
During Breast feeding phase:						
1- Pillow under hand.	70%	30%	18%	74%	$\chi2$ = .3a	P=.57
2- Relax arm and shoulder.	74%	**26%**	24%	82%	$\chi2$ =1.2a	P=.25
3- Right position.	70%	30%	18%	76%	$\chi2$ =.7a	P=.39
4- Nipple contact on baby's cheek.	56%	44%	18%	82%	$\chi2$=115.9	P=.000*
5- Help newborn find nipple.	56%	44%	18%	82%	$\chi2$=115.9b	P=.000*
6- Don't put breast on baby's face.	54%	46%	10%	82%	$\chi2$ =15.6a	P=.000*
7- Put all areola in mouth.	60%	40%	20%	**90%**	$\chi2$ =18.0a	P=.000*
8- Raise new born's head.	52%	48%	22%	80%	$\chi2$ =15.6a	P=.000*
9- Make sure baby is sucking and swallowing.	54%	46%	24%	78%	$\chi2$ =11.5a	P=.000*
10- Observe allow down.	30%	**70%**	22%	76%	$\chi2$ =.7a	P=.001*
11- Note feeding duration.	60%	40%	28%	78%	$\chi2$ =6.4a	P=.39
12- When stopping, put finger in baby's mouth and remove breast.	60%	40%		**72%**	$\chi2$ =2.8a	P=.011*
						P=.09
After Breast feeding phase:						
1- Be sure that, effective suckling occurs when: Swallowing	54%	46%	20%	**80%**	$\chi2$=13.5a	P=.000*
sounds are heard.	58%	42%	22%	78%	$\chi2$ =8.0a	P=.005*
2- Change diaper.	64%	36%	24%	76%	$\chi2$ =2.8a	P=.090
3- Put in Left position.	68%	32%	32%	**68%**	$\chi2$ =.0a	P=1.000
4- Place dry towel under baby's chin.	50%	**50%**	22%	78%	$\chi2$ =15.6a	P=.000*
5- Baby is satisfactorily fed and not hungry.	52%	48%	30%	70%	$\chi2$ =6.4a	P=.011*
6- Record baby's response.	62%	38%	28%	72%	$\chi2$ = 97.7b	P=.000*
7- Hand washing.						
Total observational scores:	**36.16 ± 4.437**		**43.90 ±8.41**		**t. Test= 8.138**	P=.000*



Discussion:

This study handled four overarching themes. Theme one; Demographic Characteristics of the participants, the second theme concerned about the time of starting the initial breast feeding after delivery, the sources of knowledge & the obstacles of breast feeding among studied women. Third theme related to overall mean of Edinburgh postnatal Depression scale (EPDS), & finally theme four, which concerned about the observational scores of the women during breast feeding after implementation of the intervention programs.

Theme one related to demographic characteristics of the participants,

The findings of the present study revealed that near to one half of the sample was within thirty to forty years old, high percentage of the sample was housewives & lived-in rural areas, and more than half of the sample had bachelor's degree of education. This explained that this age of the studied women is the age of childbearing period. These findings were agree with **Ali, &Fadhil (2016)** who showed that; the age of sample was thirty years old, also more than one half of the women was house wives, but about three quadrants of puerperal women were lived in an urban environment. Otherwise, **Taha, et al., (2016)** demonstrated that women less than twenty years old were more likely to report less intention to breast feeding their infants. The present study demonstrated that, majority of the women were multi-gravida & multi-par with mean gestational weeks of the sample was within the normal ranges. Also, low ratio of women had complications during the current pregnancy. More than one-half of the sample had normal vaginal deliveries. This finding agree with the study carried out by **Ali, &Fadhil (2016)** who clarified that above one half of the women had spontaneous vaginal deliveries with episiotomy.

The second theme concerned about the time of starting the initial breast-feeding after delivery, the sources of knowledge & obstacles of breast feeding among studied women. The current study results also showed that, three quadrants of the intervention group started breast feeding within the first two hours immediately after delivery compared to only one half of the control group.

From the researcher's point of views, early initiation of breast feeding among the intervention program was very effective on the mother's performance during breast feeding. These findings in congruence with **Ahmed (2019).** As well as with **Melika, & Allahi, (2019), Ugurlu, &Yavan (2016)** who illustrated that, most of mothers-initiated breastfeeding among the study group at initial 6 hours while no one of moms among the control group did that, with significant statistical differences between both groups at P<0.001. From other hand, **White-Traut et al., (2012)** demonstrated that; the newborn feeding time is influenced by auditory, tactile, visual, and vestibular stimulation on behavioral feeding condition among the infants and the feeding time among the intervention group was more than the control group due to the effect of implementation the intervention program which empowering the women to start breast feeding early.

Concerning to the sources of knowledge about breast-feeding among puerperal women. The results of this study displayed that; the nurses and doctors were the main sources of knowledge about breast-feeding among the studied groups. For this reason, the researchers were interesting in encouraging puerperal women to breast feed their newborns early after labor. This finding did not approve with **Melika, et al., (2019)** when implementation a counselling program about Breastfeeding in the obstetrics and gynecology hospital at Ain Shams University Hospitals Cairo Governorate. Their Study illustrated that, the main source of information of breast feeding to mothers were their own mothers or grandmother among the control group, and 62% among the study group, while only(8%) and (6%) of them had information from nurses according to the control group and the study group respectively, with insignificant statistical differences with p value P>0.05. Furthermore, **Ali, & Fadhil (2016)** indicated that, the high percentage of the study sample their information source was from their families.

Moreover, Pain after labor, fatigue &exhaustion were the most common obstacles to start breast feeding among participants women, as well as there was another obstacle as fear of milk infection and also, from returning to work which were faced by the working mothers. These findings agreed with **Ali, & Fadhil (2016)** who found that most women who discontinue breastfeeding early do so because of perceived difficulties such as lack of milk, ineffective breast attachment, their baby being unable to suckle, leakage, and pain. Otherwise some women believed that they have problem in milk production and breast feeding increases breast size and body weight **(Amadah 2013** & **Dennis 2002).**

Third, theme related to the total mean of Edinburgh postnatal Depression scale (EPDS)

The present study confirmed that after implementation of the intervention program about the importance of immediate initiation of breast feeding after delivery, total mean of Edinburgh postnatal Depression scale (EPDS) was lower among the intervention group than in the control one, with high statistically significant differences with (P<0.0001) regarding all items of (EPDS. This means that the intervention group has a lower rate of PPD than the control group. Most women (81%) among the study group had mild degree (less than 9 scores) compared to that of the control group (70%). While very low number of the study group (3%) had severe degree (≥ 13 scores) compared by (15%) among the control group (five times as much among the control group). Moreover, there was high statistically significant correlation with (P<0.000*) between total Edinburgh scores and women age & time of starting the early initiation of breast feeding among puerperal women. These findings agreed with **Hirani et al (2015)**,& ***(Eddy B, et al. (2019)***

Finally, theme four which concerned with the observational scores of the women during breast feeding after implementation of the intervention programs, this study revealed that improvement of the women's score among the intervention group than the control one with high statistically significant differences with (P<0.000*) was due to that most of the puerperal women in the intervention group had Satisfactory level in implementing and performing all the steps of breast-feeding when compared to the other group. This was related to many factors like implementation of intervention program by the researchers in front of the women individually to teach them how and when to start breast feeding ideally, women's desire to learn the ideal time for breastfeeding, and researchers explaining each step in front of each mother. This finding is in congruence with the studies carried by ***Ugurlu & Yavan (2016), Ahmad (2017) Melika, et al., (2019)*** who revealed that; Early breastfeeding initiation by mothers who are taught and advised by nurses and other healthcare experts is particularly effective in preserving the health status of their children and mothers which leads to a healthy family and consequently a healthy community**.** In addition, the counseling was significant factor in improving the women decision regarding early initiation of breastfeeding.

Conclusion

Founded on the results of the present study, it concluded that, the research hypothesis was achieved through starting of early breast-feeding among the studied women. Application of the intervention program about early initiation of breast-feeding succeeded in reducing the scores of EPDS among participants who attend the intervention program than who did not. In addition, women in the intervention group had higher observational scores during breast feeding procedure than females in the control group.

Recommendations

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

- Increased the counselling programs about early initiation of breast-feeding early in pregnancy during (ante-natal- natal- and postnatal) period is effective.
- Screening all women for postnatal depression and anxiety PNDA during the fourth week post-partum by performing a psychosocial assessment and applying EPDS.
- Follow -up for the mothers and their newborns during the first year after delivery for mental and psychological condition as well as physical condition.
- Further studies for large sample of women to encourage early breast-feeding, prevention of postpartum depression, and for generalization of the study results.

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