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EFFECTS OF PRIMI-GRAVIDA TRAINING PROGRAM REGARDING EXCLUSIVE BREASTFEEDING IN FAISALABAD

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Abstract

Background: Breastfeeding provides numerous benefits to both infants and mothers. World Health Organization recommends exclusive breastfeeding for 6 months and supplementary feeding for 2 years of baby's life. Various factors influence breastfeeding practices, causing a decrease in breastfeeding rates. Pregnancy period offers an opportunity to address some modifiable factors with exclusive breastfeeding training to have increased breastfeeding outcomes in postnatal period.

Objective: To determine the effects of primi-gravida training program regarding exclusive breastfeeding in Faisalabad.

Methodology: In this two group quasi experimental study design, 66 primi-gravida attending outpatient department of Allied Hospital Faisalabad were assigned the interventional (n=33) and control (n=33) groups. Exclusive breastfeeding questionnaire was used to assess the breastfeeding intention, breastfeeding self-efficacy (BFSE) and breastfeeding barriers during third trimester. After pretest, interventional group was given 60 minutes breastfeeding training. Participants were remained in contact through a WatsApp group with the researcher.

Results: One participant from interventional group and two from control group left the study. Paired sample t-test was used to compute the results. Exclusive breastfeeding practice (1.36±.364; 0.73±.315) and BFSE (18.94±3.350; 9.45±3.150) were significantly higher in interventional group than in control group. Although, women in intervention group reported a great decrease in breastfeeding barriers (1.72±1.14; 6.48±1.94) than in control group. The results were statistically significant p-value <0.05.

Conclusion: The current study suggests that the antenatal breastfeeding training in primi-gravida is very important and effective in increasing exclusive breastfeeding practice. In addition, it also helps to combat breastfeeding barriers. Moreover, further researches are needed on antenatal breastfeeding training concentrating on health systems, particularly maternity care.

Key word: Primi-gravida, exclusive breastfeeding, intention, self efficacy, barriers

Introduction:

One of the first decisions new mothers make is how to feed their newborn. This is a necessary decision because early nutrition is associated with health in infancy and later in life (Raissian & Su, 2018). World Health Organization (WHO) recommends exclusive breast feeding (EBF) for infants

up to 6 months of age and supplemental breastfeeding for 2 years and older (organization, 2021). Infant formula is an option for non breastfed infants to get the nutrition they need but children fed with formula have a 16.7 times greater risk of pneumonia and other diseases (Elana et al., 2018).
The elements that affect the practice of breastfeeding are numerous and associated to the mother herself, with her intentions, self efficacy and expertise on breastfeeding (Jasny, Amor, & Baali, 2019). Leshi, Samuel, & Ajakaye, (2016) have observed the prenatal intention is associated with prolonged practice of BF. More stronger is the mother's intention more stronger is her practice of EBF. While breastfeeding self efficacy can be defined as the confidence the mother has in her ability to feed her baby (Iliadou, Lykeridou, Prezerakos, Swift, & Tziaferi, 2018), whether mother choices are same to the preferred infant feeding methods and How much efforts she will put on EBF (Piro, Ahmed, & childbirth, 2020).

It is also critical to identify potential factors that may be associated with trends in breastfeeding practices, such as a lack of support to pump breast milk and to properly store it (Fallon et al., 2017). Kamal et al, (2021) reports there are several factors identified by parents as breastfeeding barriers such as lack of knowledge, negative attitudes, inadequate professional support, inconvenience and problems with milk supply. Furthermore, insufficient experts support has been identified as a major impediment to BF among participants. thus, Primary debate on BF practices prior to the child's birth is important, as access to prenatal care can be helpful to improve proportionate of BF initiation and success (Renuka et al., 2020).

World Health Organization, (2021) data depict that many infants and children are not on exclusively breastfed for six months of their infant life. Wako, Wayessa, & Fikrie, (2022) longitudinal research 2015 - 2020 showed that 44% of babies aged 0–6 months were exclusively breastfed globally. Pakistan is also performing worst with regards to exclusive breastfeeding (Riaz, Condon, & Birth, 2019) as only 38 percent children are being exclusively breastfed uptill six months with the ratio of 4 out of 10 children (UNICEF, 2019).
The United Nations agenda for Sustainable Development Goals aims to increase exclusive breastfeeding practices to 50% by 2030 (Cf, 2015) but 38% of children are being exclusively breastfed in Pakistan while feeding practices are frequently inadequate; water and other liquids are commonly fed to breastfed babies (Jamil, Khanum, Omer, & Hamid, 2018).
However, Mothers who are predisposed to breastfeeding training appear to exclusively breastfeed for a longer period of time. Furthermore, mothers who believe that breastfeeding is more practical, healthy, and less expensive choose formula less frequently than mothers who believe breastfeeding is difficult and embarrassing (Iliadou et al., 2018). For that purpose, it is hypothesized that there are effects of primi-gravida training program regarding exclusive breastfeeding in Faisalabad.

Objective: To determine the effects of primi-gravida training program regarding exclusive breastfeeding in Faisalabad.

Material and methods:
Our study used two group quasi-experimental study design (pretest to posttest) and was performed on primi-gravida women attending outpatient department (OPD) at Allied Hospital Faisalabad. A total of 66 participants were recruited through purposive sampling technique and divided in two groups in which group 01 was intervention group and group 02 was control group. Primi-gravida were selected according to the inclusion criteria such as Primi-gravida at 32 – 38 weeks gestation, having score ≤70%, in Domain 01 breastfeeding intention and Women who can understand Urdu and willing to participate. Exclusive breastfeeding questionnaire was filled by all the participants Intervention group was given breastfeeding training of 60 minutes in one to one session or group of 3-5 people while control group didn't receive any training. After receiving back the questionnaire, the researcher provided educational intervention to these women through power point presentation, pamphlets, doll and discussion.
The focus of the training was on developing latch on and positioning skills as well as overcoming common fears, anxieties, issues and misconceptions. The basic anatomy and physiology of milk

production, the advantages of exclusive breastfeeding for both the mother and the child, how to establish breastfeeding and understand milk supply, positioning and attachment, the role of partners in breastfeeding, common misconceptions, worries, and problem-solving were among the topics covered to the participants. In order to create a support system, all women were encouraged to share their individual problems with the researcher and the other group members.
WhatsApp group was also created for the study participants; purpose of this WhatsApp group was to remain in contact and educate the participants and resolve the quires of the participants according to their need by sharing teaching stuff and discussion on their queries. The participants who were illiterate or don't know how to use WhatsApp, was asked to share the number of their literate family member who can translate them the teaching material. The researcher remained in contact with the participants on their follow up visits to the hospital.

Measures:

Exclusive breast feeding questionnaire:

It is a scale to assess the intention of pregnant women before delivery regarding breastfeeding and also to assess the practices of women after delivery. It also helps in assessing prenatal and postnatal breastfeeding self-efficacy and breastfeeding barriers. It has 3 domains

Domain 1: breast feeding intention /practice: it has one item score range 0-2
Domain 2: breast feeding self-efficacy (BFSE): it has 14 items. "1" item for mother's confidence in ability to breastfeed, "5" items for knowledge of breast feeding and "8" items for breast feeding support. All score range from 0-28
Domain 3: breast feeding barriers: it has 14 items score range 0-14. Higher score in domain 1 and 2 represented higher breastfeeding intention and breastfeeding self-efficacy while higher score in domain 3 indicated more perceived barriers.
Validity and reliability of the instrument was checked by pilot study. The instrument was validated by five field experts and had the content validity index (CVI) 0.86 and reliability was 0.79 Cronbach's Alpha. Demographic variables registration no., age, race and occupation were added in the form of multiple choices.

Statistical analysis:

Quantitative variables were expressed in mean and standard deviation, while qualitative variables in absolute frequencies. Paired sample t- test was used as data was normally distributed and p-value <0.05. Data was analyzed by using SPSS-25.0 version.

Results:

Overall, 66 participants were employed in the study. A total of 33 participants were employed in the interventional group and 33 in control group. All the participants were primi-gravida women taken from OPD who were willing to participate in the study. However, 1 participant from interventional group and 2 participants from control group did not come for follow up hence dropped from the study. A total of 32 women participated from the interventional group and 31 participated from the control group.

Description of demographic characteristics of sample:

It includes of 5 items i.e. registration no., age, race or ethnicity, occupation and pregnant or having a child.

Table 1: Demographic distribution of participants:

Variables	Intervention group		Control group	
	Frequency	%age	Frequency	%age
Age in years				
18 – 24 years	18	54.5	19	57.6

24 - 29 years	8	24.2	10	30.3
30 – 34 years	7	21.2	4	12.1
Race or ethnicity				
Urdu	2	6.1	1	3.0
Punjabi	31	93.9	32	97.0
Occupation				
House wife	28	84.8	31	93.9
Private business	3	9.1	0	0
Employee	2	6.1	2	6.1
Pregnant or having a child				
Currently pregnant	33	100	33	100

Table 2: Comparison of pre and post test intention/ practice scores of participants in intervention and control group

Variable	Group	Pre test	post test	t-test	p-value
Breastfeeding intention/ practice	Intervention	0.60±.275	1.36±.364	-9.929	<.001
Breastfeeding intention/ practice	Control	0.59±.221	0.73±.315	-1.978	.057

Table 2 showed there was no significant difference in pretest scores while there is significant difference between both groups in post test results. Breastfeeding intention/ practice have considerable improvement post test scores of interventional group.

Table 3: Comparison of pre and post test BFSE scores of participants in interventional group

Variable	Pre intervention	Post intervention	t-test	p-value
(A) Mother's confidence in ability to breastfeed	.56±.504	1.66±.545	-10.522	<.001
(B)Knowledge of breastfeeding:				
I would like to learn more about breastfeeding	1.88±.421	.69±.821	7.499	<.001
I feel that I know enough about breastfeeding	.41±.499	1.59±.560	-9.698	<.001
I have enough support to breastfeed the way I would like	.09±.296	1.47±.718	-1.089	<.001
I have seen other women breastfeeding	1.25±.622	1.78±.420	-.289	<.001
I have taken a class about breastfeeding	.16±.448	1.94±.246	-1.604	<.001
(C)Breastfeeding supports:				
Access to a breast pump	.53±.671	1.34±.745	-.531	<.001
Access to reliable transportation for appointments	1.03±.400	1.72±.457	-.438	<.001
Access to a lactation consultant	1.03±.177	1.88±.336	-.711	<.001
Ability to store pumped milk	.44±.619	1.34±.745	-.626	<.001
Access to lactation supports in your spoken language	.91±.390	1.69±.471	-.544	<.001
Paid maternity leave from your job	.09±.296	.13±.421	.113	.662
Unpaid maternity leave from your job	.06±.246	.00	.151	.161
Access to resources in the community that provide breastfeeding supports	1.00±.254	1.72±.457	-.509	<.001
BFSE	9.44±2.539	18.94±3.350	-14.998	<.001

Table 4: Comparison of pre and post control BFSE scores of participants in control group

Variable	Pre control	post control	t-test	p-value
(A) Mother's confidence in ability to breastfeed	.48±.508	.39±.615	.682	.500
(B)Knowledge of breastfeeding:				
I would like to learn more about breastfeeding	2.00±.001	1.71±.643	2.516	.017
I feel that I know enough about breastfeeding	.45±.506	.52±.570	-.528	.601
I have enough support to breastfeed the way I would like	.26±.445	.32±.541	-.571	.572
I have seen other women breastfeeding	1.10±.651	.97±.547	.891	.380
I have taken a class about breastfeeding	.13±.428	.10±.396	.297	.768
(C)Breastfeeding supports:				
Access to a breast pump	.58±.564	.65±.551	-1.00	.325

Access to reliable transportation for appointments	.90±.473	1.03±.407	-1.680	.103
Access to a lactation consultant	.87±.428	1.03±.180	-1.976	.057
Ability to store pumped milk	.55±.568	.65±.551	-1.360	.184
Access to lactation supports in your spoken language	1.19±1.682	1.00±.258	.633	.531
Paid maternity leave from your job	.16±.523	.06±.250	1.360	.184
Unpaid maternity leave from your job	.03±.180	.00	1.00	.325
Access to resources in the community that provide breastfeeding supports	1.00±.365	1.03±.180	-.441	.662
BFSE	9.71±3.237	9.45±3.150	.420	<0.67

Table 5: Comparison of pre and post intervention breastfeeding barriers scores of participants in interventional group

Variable	Pre intervention	post intervention	t-test	p-value
Medically unable	.00	.00	.00	.00
Lack of support for breastfeeding in my culture	.41±.499	.22±.420	2.252	<.032
Not enough time	.41±.499	.22±.420	1.791	<.083
Do not like seeing or doing it	.53±.507	.00	5.927	<.001
Problems with milk supply	.34±.483	.16±.369	1.791	<.083
Lack of knowledge on the topic	1.00±.00	.00	.00	.00
Breastfeeding is painful	.91±.296	.00	17.31	<.001
Lack of support from family or partner	.72±.457	.53±.507	1.791	<.083
Have to go back to work/ lack of support at work	.16±.369	.06±.246	1.791	<.083
Nothing has restricted me from breastfeeding how I would like	.47±.507	.34±.483	1.072	<.292
Not publicly acceptable	.47±.507	.03±.177	4.910	<.001
I do not want to breastfeed	.47±.507	.00	5.230	<.001
Lack of support from healthcare provider and or/ hospital	1.00±.00	.06±.246	21.56	<.001
I do not have a reason for not breastfeeding	.63±.492	.09±.296	5.299	<.001
Breastfeeding barriers	7.50±1.77	1.72±1.14	14.51	<.001

Table 6: Comparison of pre and post control breastfeeding barriers scores of participants in control group

Variable	Pre control	post control	t-test	p-value
Medically unable	.00	.00	.00	.00
Lack of support for breastfeeding in my culture	.29 ± .461	.39 ± .495	-1.139	.264
Not enough time	.35 ± .486	.45 ± .506	-1.00	.325
Do not like seeing or doing it	.48 ± .508	.35 ± 486	1.072	.292
Problems with milk supply	.52 ±.508	.68 ± .475	-1.718	.096
Lack of knowledge on the topic	.97 ± .180	.94 ± .250	.571	.572
Breastfeeding is painful	.94 ± .250	.68 ± .475	2.794	.009
Lack of support from family or partner	.58 ± .502	.74 ± .445	-1.718	.096
Have to go back to work/ lack of support at work	.23 ± .425	.06 ± .250	2.402	.023
Nothing has restricted me from breastfeeding how I would like	.55 ± .506	.29 ± 461	2.278	.030
Not publicly acceptable	.26 ± .445	.29 ± .461	-.297	.768
I do not want to breastfeed	.48 ± .508	.32 ± .475	1.409	.169
Lack of support from healthcare provider and or/ hospital	.97 ± .180	.81 ± .402	1.976	.057
I do not have a reason for not breastfeeding	.87 ± .341	.45 ± .506	3.763	.001
Breastfeeding barriers	7.52±1.86	6.48±1.94	1.987	<.056

Discussion:

This study demonstrates a significant increase in EBF rates 1 month postpartum when printed, face to face breastfeeding information and telephone support were provided. Furthermore, compared to the women in control group who did not get face to face information, telephone help and written material related to breastfeeding; experienced a marginal increase in EBF rates. These findings are

consistent with the findings of a randomized control trial, which found that any sort of support increases the likelihood of breastfeeding (Puharić et *al*., 2020).

Domain 1: Breastfeeding intention/ practice:

Breastfeeding is an essential component of a child's life and primi-gravida may in fact be linked to no previous experience which in turn decreases the likelihood of breastfeeding. Present study clarifies that improvement can be gained in the breastfeeding practice after training given in the antenatal period as mean posttest score shows a statistically significant relationship (p-value <0.001) between the breastfeeding intention and practice of the participants. The fact behind the improved practice of breastfeeding among the participants of interventional group was probably the reflection of the breastfeeding training given to them. Renuka, Shabadi et *al.* (2020) observed women in postnatal period and realized that breastfeeding training provided during pregnancy on breastfeeding intention showed a significant relationship in enhancing BF practice. Consistent with our results, it is evident that the success of breastfeeding is correlated with mothers' intentions towards breastfeeding and enhancing maternal intention regarding breastfeeding can greatly raise the probability of breastfeeding.

Domain 2: Breast feeding self efficacy (BFSE):

The findings from this study indicate that breastfeeding training is helpful in enhancing mother's confidence in their ability towards EBF. Integrating self efficacy enhancing techniques during pregnancy boost mother's confidence in their ability to breastfeed and they practice exclusive breastfeeding after delivery. Similar to the findings of this study, other studies have also demonstrated that breastfeeding self efficacy is positively impacted by prenatal education/training that enhance mother's confidence to breastfeed and in return good breastfeeding practices are achieved (Chipojola, Chiu, Huda, Lin, & Kuo, 2020; Crossland, Thomson, & Moran, 2020). In addition, compared to control groups, participants in the breastfeeding-focused training had a significantly better approach toward breastfeeding and higher breastfeeding self efficacy (Sanageri & Humanities, 2022). It is evident by comparing the results of numerous studies that prenatal breastfeeding trainings are effective in raising BFSE.

The study shows that precise and clear knowledge provided by breastfeeding training about the benefits of breastfeeding is highly important in increasing BFSE. These findings are in line with the findings of a study that women who have a high degree of knowledge about breastfeeding benefits, have better BFSE and are aware that breastfeeding is essential nourishment (Dukuzumuremyi, Acheampong, Abesig, & Luo, 2020). Thus a simple and logical training can improve mother's breastfeeding knowledge and subsequently have a positive effect on BFSE.

Increased support has also been linked to higher breastfeeding rates and higher BFSE. In our research, breastfeeding training and active WatsApp group that provided additional assistance resulted in enhanced BFSE. Puharic et *al*. (2020) also concluded that the women who receive any professional support regarding breastfeeding were considerably more likely to commence breastfeeding and in turn increased BFSE. Likewise, additional support of all kinds boosts breastfeeding.

Therefore, breastfeeding self efficacy is considered an important factor that influences the choice of breastfeeding approach and degree of compliance in solving breastfeeding issues. In regard to the findings of this study, the overall post test breastfeeding self efficacy (BFSE) scores of intervention group (18.94±3.350) were greater than control group (9.45±3.150). It implies that when women are motivated in the prenatal period and make an attempt to increase their breastfeeding self efficacy; they exhibit an improvement in breastfeeding self efficacy after delivery. This is in line with the findings of a study conducted by Piro et *al.* (2020) where interventional group (70.84±8.68) performed better than control group (55.02±9.49) in regards of BFSE when training was provided during pregnancy and re evaluated after delivery. For that reason, more attention should be given to pregnant women regarding BFSE as it is a predictor to enhance EBF. The results of the current study supported the hypothesis that prenatal training can raise BFSE.

It is clear that a simple, logical breastfeeding training can improve mother's understanding of breastfeeding and subsequently have a positive effect on BFSE.This is a clinically significant finding, particularly for areas where newborn feeding practices are frequently suboptimal.

Domain 3: Breastfeeding barriers:

Breastfeeding mothers face various barriers in order to begin and continue breastfeeding, despite the great benefits it provides to human health. Fortunately, there is also evidence to suggest that such barriers can be surmounted with sufficient training and focus. According to our study, many mothers face lack of family and cultural support and felt breastfeeding is painful. It was handled with proper training on latch on, breastfeeding positions and alleviating their anxiety and fear related to pain. Similarly, Ickes, Sanders et *al*. (2021) found that with the help of appropriate breastfeeding training and guidance, family and cultural support exclusive breastfeeding can be gained. Ejie et *al*. (2021) affirms that pain can be handled by correct latch on and minimizing their fear related to breastfeeding.

The results of our study showed a positive impact on women who reported not like doing or seeing breastfeeding and do not want to breastfeed. Women in the intervention group were guided about the benefits of breastfeeding to mother and the child and a statistically significant improvement (p-value <0.001) was observed within them. Rivi, Petrilli, & Blom, (2020) found a significant progress in breastfeeding in the women who do not want to breastfeed after a training on advantages of breastfeeding and they switched onto it. It is obvious that the decision not to breastfeed is frequently taken in situations where the mother does not really have a choice such as mother's or newborn's medical circumstances, otherwise, it is wiser to get her ready for the option that breast milk is the best choice.

On the other hand, breastfeeding training was effective for the mothers who face difficulties when they do not have support from healthcare provider or hospital (p-value <0.001). Although there is evidence that these barriers are manageable with sufficient training and information. This is in line with a study enlightening lack of appropriate support and information from healthcare provider hinders breastfeeding practices (Snyder et al., 2021).

Our analysis showed the effectiveness of breastfeeding training in reducing breastfeeding barriers as the overall mean breastfeeding barriers post test score of participants in intervention group (1.72±1.14) and control group (6.48±1.94). It showed a great decrease in barriers after breastfeeding training in intervention group as compared to control group. The findings resemble to a study conducted by Iliadou et *al*., (2018) that a significant decrease in post test barriers was observed after intervention (27.41 ±5.95) and control group (31.05 ±5.45). These findings are consistent with earlier studies and highlight the variety of factors that influence the decision to breastfeed.

Present study clarified a great reduction in breastfeeding barriers after training which showed that barriers can be minimized with interventions. Since the research has indicated that primi-gravida might not be proactive in utilizing existing resources. Similarly, in Faisalabad district, it was noticed that exclusive breastfeeding can be achieved by breastfeeding training and focusing on perceived barriers (Afzal, Farah, Farah, & Perspective, 2022).

Our study examined some differences in breastfeeding intention/ practice, breastfeeding self efficacy and breastfeeding barriers and demonstrated that factors essential for breastfeeding may be uniform for both intervention and control group. In view of the significant findings this study, it is increasingly evident that there is a need for implementing such trainings, capable of assisting and reinforcing EBF. Furthermore, attrition may have certainly biased our results to some extent. Thus, hospitals are the primary site of births and the setting in which lactation begin; it is seen that by creating an environment in hospitals where breastfeeding can flourish, has increased breastfeeding practices.

Our study's strength is its high response rate. Our study does have several limitations, though. It was time bound and only one hospital was used to collect the sample for the study that can limit the generalizability. There is also chance that the volunteers in the intervention group had a stronger inclination toward breastfeeding.

Conclusion:

Primi-gravida training program regarding EBF has adequately affected the breastfeeding intention, BFSE, helped in reduction of breastfeeding barriers, and increased EBF practice and BFSE of first time mothers. In order to effectively promote EBF, primi-gravida should be targeted in the antenatal period, mainly in the third trimester, their intention and BFSE must be improved; and they must be taught how to overcome barriers. When developing and putting into practice plans to promote EBF, such issues must be taken into account. The organizations that concentrate on behavior change communication interventions to enhance EBF will find our study's findings very beneficial.

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