



E-ISSN: 2706-9575
P-ISSN: 2706-9567
IJARM 2023; 5(3): 18-22
Received: 02-05-2023
Accepted: 08-07-2023

Basma Ali Elsaadany
Department of Family
Medicine, Faculty of Medicine,
Tanta University, Tanta,
Egypt

Eslam Elsayed Elhawary
Department of Pediatrics
Medicine, Faculty of Medicine,
Tanta University, Tanta,
Egypt

Khalil Mohamed Ayad
Department of Public Health
and Community Medicine,
Faculty of Medicine, Tanta
University, Tanta, Egypt

Moeness Moustafa Alshishtawy
Department of Public Health
and Community Medicine,
Faculty of Medicine, Tanta
University, Tanta, Egypt

Corresponding Author:
Basma Ali Elsaadany
Department of Family
Medicine, Faculty of Medicine,
Tanta University, Tanta,
Egypt

Effect of continued support and mother's counseling on the duration of exclusive breastfeeding in a rural area in Egypt

Basma Ali Elsaadany, Eslam Elsayed Elhawary, Khalil Mohamed Ayad and Moeness Moustafa Alshishtawy

DOI: <https://doi.org/10.22271/27069567.2023.v5.i3a.494>

Abstract

Background: Breastfeeding counseling is an effective public health intervention to increase rates of any and exclusive breastfeeding. This work aimed to study the effect of breastfeeding education, continued support, and mothers' counseling on initiation and continuation of exclusive breastfeeding.

Methods: This quasi-experimental study was carried out on 176 mothers and their infants who were divided into two equal groups (control group): received the routine health education service as regards breastfeeding, and (intervention group): received the routine service in addition to continued support on initiation and continuation of exclusive breastfeeding.

Results: There was a significant difference between the two studied groups as regard duration of exclusive breastfeeding, mean of this duration and period of follow-up ($P=0.000$). There was highly significant difference between the two studied groups as regards method of communication and length of the period of follow-up ($p<0.001$). There was non-significant difference between the two studied groups as regards socio-demographic characteristics of the infants and progress of the nutritional status by the type of measurement by the period of follow-up.

Conclusions: Skilled breastfeeding counseling as part of comprehensive breastfeeding policies and programs in health facilities can increase the duration of exclusive breastfeeding up to six months. In addition, the ongoing individualized support and counseling can solve most of the problems that face mothers during breastfeeding. Exclusive breastfeeding does not significantly affect an infant's weight or length, but without doubt, can improve the nutritional status of malnourished infants.

Keywords: Continued support, mother's counseling, duration, exclusive breastfeeding, rural area

Introduction

Exclusive breastfeeding (EBF) is defined as providing infants with only breast milk without the addition of water, herbal preparations, or food in the first six months of life, except for vitamins, mineral supplements, and medicine [1]. Breastfeeding is critical for achieving global goals on nutrition, health and survival, economic growth and environmental sustainability. The effects of poor nutrition and poor health and care practices resulting in stunting may also be associated with delayed motor and mental development [2].

In 2012, the World Health Assembly Resolution 65.6 endorsed a Comprehensive implementation plan on maternal, infant, and young child nutrition [3], specifying six global nutrition targets for 2025, one of which is to increase the rate of exclusive breastfeeding in the first 6 months up to at least 50% [4].

Beyond 6 months, breastfeeding continues to provide energy and high-quality nutrients that, jointly with safe and adequate complementary feeding, help prevent hunger, under nutrition and obesity. Although the health benefits of breastfeeding are widely acknowledged, opinions and recommendations are strongly divided on the optimal duration of exclusive breastfeeding. Since 2001, the World Health Organization has recommended exclusive breastfeeding for six months [5].

In Egypt, EBF is a frequent practice but not general. Among infants under the age of 2 months, 79% were counted to be exclusively breastfed. However, this proportion decreases dramatically among older infants by the age between 4 and 5 months. Supplementary foods or drinks are reported in around 7 in 10 babies, with somewhat more than 3 in 10 given complementary foods [6].

Breastfeeding counseling aims to empower women to breastfeed, while respecting their personal situations and wishes. Breastfeeding counseling is, therefore, never to be forced upon any woman. This would be contrary to the concept of counseling. Rather, counseling is made available and accessible to all pregnant women and mothers, particularly those who are considering or already breastfeeding [7].

Breastfeeding counseling for pregnant women can enable them to have the best start at breastfeeding, with support to allow mothers and their neonates to initiate breastfeeding as soon as possible after birth, stay together throughout the day and night, and establish and maintain breastfeeding with proper attachment and positioning [7].

Counseling can highlight the extensive and resounding evidence on the benefits of breastfeeding, as well as providing mothers with scientific, unbiased, and information about other infant and young child feeding choices, so that they can safely and responsively feed their child [8]. It is therefore necessary for breast-feeding promotion to begin training of mothers and their families during pregnancy period while focusing on the importance of breast-feeding and teaching breast-feeding skills and family support after delivery and resolving related problems in collaboration with key family members [9].

This work aimed to study the effect of breastfeeding education, continued support and mothers' counseling on initiation and continuation of exclusive breastfeeding.

Patients and Methods

This quasi-experimental work was performed on 176 mothers having infants below six months of age who were maintaining exclusive breastfeeding, lactating mothers who gave birth at time of the study and pregnant women at 36 weeks or more.

Following receiving clearance from Tanta University's Ethical Committee, the research was carried out. Mothers gave their informed, signed agreement to take part. From May 2019 to July 2019.

Exclusion criteria were any caregiver of the infant except the mother, mothers who received any sort of comprehensive breastfeeding classes in the last two years and mothers who did not have phone access or refuse to receive calls and home visits.

The study population was divided equally into two groups and each woman had a number: intervention group (containing women with odd numbers): received the routine service in addition to continued support on initiation and continuation of exclusive breastfeeding and control group (containing women with even numbers): received the routine health education service as regards breastfeeding.

Data of the questionnaire included: Personal data of mother and infant, socio-economic data of the infant's family, family history of exclusive breastfeeding, history of healthcare services received by recruited mothers and previous breastfeeding education or training, history of infants' illnesses during period of lactation.

Anthropometric measurements: Was assessed twice: Once the infant was born or his lactating mother joins the study, and after reaching the age of 6 months or cessation of the exclusive breastfeeding.

The nutritional indicators

Length-for-age: Z scores \leq 2SD reflected past or chronic malnutrition. It indicated stunting. Child Length was assessed to the closest 0.1cm. Utilising a portable wooden stadiometer placed on a flat surface. Interpretation of the results was based on (WHO growth standards) [10].

Weight-for-age: Z scores \leq 2SD reflected past (chronic) and/or present (acute) malnutrition but did not distinguish between the two. It indicated underweight. Weight was measured to the nearest 0.1kg. With an electronic scale, the child wears light clothing and is without shoes. Interpretation of the results was based on (WHO growth standards) [10].

Weight for length: Z scores \leq 2SD was a sign of acute malnutrition and indicated wasting. Interpretation of the results was based on (WHO growth standards) [10].

Infant head circumference: removing any ponytails, plaits, or hair clips. Measuring the circumference of the head by wrapping the measuring tape around the forehead's most anterior and posterior protuberances. Measure the biggest circumference by placing the tape there. The head circumference was measured three times. By summing the data and dividing by three, the mean (average) measure was obtained. Interpretation of the results was based on (WHO growth standards) [10].

Infant chest circumference: To expose the baby's mid- and lower-chest, completely remove all clothing. Label the xiphisternum' base and feeling for it in which the ribs join the sternum. Take the measuring tape and wrap it surrounding the lower chest ensuring that the mark is at the top edge of the tape. The circumference of the chest was measured 3 times. By summing the data and dividing by 3, the mean (average) value was calculated [11].

Statistical analysis

SPSS v26 (IBM Inc., Chicago, IL, USA) was used for the statistical analysis. The unpaired Student's t-test was used for contrasting quantitative data among both groups. The quantitative parameters were provided as mean and standard deviation (SD). The Fisher's exact test or Chi-square test was used to examine qualitative parameters that were reported as frequency and percent (%). Statistical significance was defined as a two-tailed P value $<$ 0.05.

Results

Table 1: Socio-demographic characteristics of the infants

		Intervention group (N = 88)	Control group (N = 88)	p-value
	Child age	36.56±40.02	40.1±39.31	0.529
Sex	Male	41 (47.0%)	37 (42.0%)	0.766
	Female	47 (53.0%)	51 (58.0%)	
Child order	First	36 (41.0%)	29 (33.0%)	0.231
	Second	18 (20.0%)	25 (28.4%)	
	Third	19 (21.5%)	22 (25.0%)	
	Fourth	12 (13.5%)	11 (12.5%)	
	Fifth	3 (4.0%)	1 (1.1%)	

Table 2: Comparison between intervention group and control group regarding methods of communication with the researcher

Method of communication	Intervention group		Control group		p-value
	Total No.	Average per infant	Total No.	Average per infant	
Phone calls	1420	16.13	360	4.09	0.000
Home visits	88	1	0	0	
Arranged meetings at NHU	198	2.1	0	0	
Health education sessions	820	9.3	0	0	
Total	2264	26.47	360	4.09	

P value significantly <0.05

Table 3: Comparison between the two studied groups regarding duration of exclusive breastfeeding

Duration of exclusive breastfeeding	Intervention group			Control group			p-value
	Male	Female	Total	Male	Female	Total	
	5.53±1.25			4.65±1.38			0.000
< 1 month	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0.000
1-2 months	2 (4.8%)	1 (2.1%)	3 (3.4%)	2 (5.4%)	3 (5.8%)	5 (5.6%)	
2-3 months	0 (0.0%)	3 (6.3%)	3 (3.4%)	0 (0.0%)	4 (7.8%)	4 (4.5%)	
3-4 months	2 (4.8%)	2 (4.2%)	4 (4.5%)	4 (10.8%)	13 (25.4%)	17 (19.3%)	
4-5 months	2 (4.8%)	1 (2.1%)	3 (3.4%)	11 (29.7%)	11 (21.5%)	22 (25.0%)	
5-6 months	35 (91.6%)	40 (85.3%)	75 (85.3%)	20 (54.1%)	20 (39.5%)	40 (45.6%)	
Total	41	47	88	37	51	88	

Data are presented as mean ± SD or frequency (%). P value significantly <0.05

Table 4: Comparison between intervention group and control group regarding length of the period of follow-up

Period of follow-up	Intervention Group			Control Group			p-value
	Male	Female	Total	Male	Female	Total	
< 1 month	3 (7.3%)	1(2.1%)	5 (5.6%)	2 (5.4%)	7 (13.7%)	9 (10.2%)	0.000
1-2 months	2 (4.8%)	2 (4.2%)	4 (4.5%)	4 (10.8%)	10 (19.6%)	14 (15.9%)	
2-3 months	4 (9.7%)	7 (14.8%)	9 (10.2%)	8 (21.6%)	8 (15.6%)	16 (18.1%)	
3-4 months	9 (21.9%)	6 (12.7%)	15 (17.0%)	8 (21.6%)	12 (23.5%)	20 (22.7%)	
4-5 months	4 (9.7%)	9 (19.1%)	14 (15.9%)	6 (16.2%)	7 (13.7%)	13 (14.7%)	
5-6 months	19 (46%)	22 (46.8%)	41 (46.5%)	9 (24.3%)	7 (13.7%)	16 (18.1%)	
Total	41	47	88	37	51	88	

Table 5: Distribution of the studied groups according to progress of the nutritional status by the type of measurement by the period of follow-up

Period of follow-up	Intervention group			Control group			p-value
	Nutritional status improved*	Nutritional status constant	Nutritional status deteriorated#	Nutritional status improved	Nutritional status constant	Nutritional status deteriorated	
< 1 month	0 (0.0%)	5 (6.8%)	0 (0.0%)	0 (0.0%)	7 (9.7%)	1 (11.1%)	0.03
1-2 months	2 (16.6%)	2 (2.7%)	0 (0.0%)	0 (0.0%)	13 (18.1%)	1 (11.1%)	
2-3 months	2 (16.6%)	7 (9.5%)	0 (0.0%)	2 (33.3%)	11 (15.2%)	2 (22.2%)	
3-4 months	2 (16.6%)	12 (16.4%)	1 (33.3%)	1 (16.6%)	15 (20.8%)	4 (44.5%)	
4-5 months	1 (8.3%)	12 (16.4%)	1 (33.3%)	0 (0.0%)	13 (18.1%)	0 (0.0%)	
5-6 months	5 (41.6%)	35 (47.9%)	1 (33.3%)	3 (50.0%)	13 (18.1%)	1 (11.1%)	
Total	12 (13.6%)	73 (82.9%)	3 (3.4%)	6 (5.6%)	73 (81.8%)	9 (12.5%)	

Discussion

Continuous counseling and health education and postnatal support can significantly improve the rates of exclusive breastfeeding from birth to 6 months after delivery versus routine care [12]. By increasing systematic exclusive breastfeeding interventions, including individual counseling, group education, immediate support for postnatal breastfeeding, and lactation management, the observed exclusive breastfeeding rates might be improved. [13].

In the present study, no substantial variation was existed among child order and duration of EBF. A study in Egypt showed an correlation among duration of exclusive breastfeeding and child order more than the third [14]. Nevertheless, no correlation between the length of exclusive breastfeeding and parity was found in the other two Brazilian cohort investigations that were conducted. [15, 16].

The current study revealed a non-significant statistical association between male gender and the EBF rate. This is disagreeing with a study in Egypt that showed that giving birth to a male infant was a significant predictor associated with higher chance for exclusive breastfeeding Al Ghwass *et al.* [17].

As regards methods of communication, the current study showed a substantial statistical variation among the two groups. Mothers in the intervention group were helped by getting encouragement, information, and practical assistance to help them become more skilled at breastfeeding. Each mother in the intervention group got at least 16 phone calls, one home visit, 9 educational sessions and 2 arranged meetings with the researcher herself at NHU. Accordingly, the proportion of mothers in the current study who continued EBF was higher in the intervention group

compared to those in the control group. This is clear from the results of the current study as many mothers in the intervention group (46.5%) were followed for 5-6 months, while many mothers in the control group were followed for 3-4 months (22.7%) and only (18.1%) of them were followed up to 5-6 months.

In the current study, there was a highly significant statistical difference between the two groups as regards duration of exclusive breastfeeding. These results certify that the interventions performed in this study had substantially enhanced the duration of EBF. A study conducted in the west of China revealed that in comparison to standard care, tailored prenatal breastfeeding instruction and postpartum assistance may increase the rates of EBF from delivery to four months following it van Dellen *et al.* [18]. According to comprehensive evaluations, prenatal and postnatal educational assistance programs increased the rates of EBF, and personal counseling was most successful when combined with ante-natal and post-natal support for education Renfrew *et al.* [19].

As regards the relation between child age at recruitment and period of follow-up, many infants aged less than one month in the intervention group (80%) continued exclusive breastfeeding under supervision for 5-6 months compared to 36.3% of infants in the control group. The noticed statistical variation among both studied groups was substantial in this age group only. These results show the positive effect of continuous counseling and support on initiation of EBF and on increasing the duration of EBF. As assured in two previous studies in London and in Latina, Continuous postpartum phone assistance may raise the percentage of new mothers who exclusively breastfeed for six-month period. Graffy *et al.* [20].

In the current study, nutritional status of infants was assessed twice by five different nutritional indicators, to show the impact of practicing EBF on growth. This result of the present work is close to the findings of another work performed in China Zong *et al.* [21] that revealed that no substantial statistical variation was existed among both groups as regards nutritional status based on weight for age measures.

The present work revealed that no significant statistical difference was existed between both studied groups as regards nutritional status based on any of the five measures used in it. A review done by Kramer and Kakuma *et al.* [22] noted that In both industrialized and developing nations, continued EBF for a six-month period has not been linked to any negative consequences on babies' development. However, a research carried out in rural western China found a statistically substantial correlation between "Infant and Child Feeding Index" and weight, height, height-for-age Z-score, and weight-for-age Z-score [23].

Conclusions

Skilled breastfeeding counseling as part of comprehensive breastfeeding policies and programs in health facilities can increase the duration of exclusive breastfeeding up to six months. In addition, the ongoing individualized support and counseling can solve most of the problems that face mothers during breastfeeding. Exclusive breastfeeding does not significantly affect an infant's weight or length, but without doubt, can improve nutritional status of malnourished infants. Using more than one anthropometric measure is preferred to make detection of any physical developmental

abnormality easier.

Financial support and sponsorship: Nil

Conflict of Interest: Nil

References

1. Motee A, Jeewon R. Importance of exclusive breastfeeding and complementary feeding among infants. *Current Research in Nutrition and Food Science Journal*. 2014 Aug 28;2(2):56-72.
2. Wu L, Katz J, Mullany LC, Haytmanek E, Khatri SK, Darmstadt GL, West Jr KP, *et al.* Association between nutritional status and positive childhood disability screening using the ten questions plus tool in Sarlahi, Nepal. *Journal of health, population, and nutrition*. 2010 Dec;28(6):585.
3. World Health Assembly Resolution. 65.5. Sixty-Fifth World Health Assembly. 2012;6:21-6.
4. World Health Organization. Reducing stunting in children: equity considerations for achieving the Global Nutrition Targets 2025: WHO; c2018.
5. Kramer MS, Kakuma R. Optimal duration of exclusive breastfeeding. *Cochrane Database Syst Rev*. 2012;20:35-7.
6. Gartner LM, Morton J, Lawrence RA, Naylor AJ, O'Hare D, Schanler RJ, *et al.* Breastfeeding and the use of human milk. *Pediatrics*. 2005 Feb 1;115(2):496-506.
7. World Health Organization. Maternal health care: policies, technical standards and services accessibility in eight countries in the Western Pacific Region: WHO; c2018.
8. Simkin P, Whalley J, Keppler A, Durham J, Bolding A. Preconception: Improve Your Health and Enhance Fertility: A free prequel to Pregnancy, Childbirth, & the Newborn: Simon and Schuster; c2016. p. 142-324.
9. Heidari Z, Keshvari M, Kohan S. Clinical trial to comparison the effect of family-centered educational-supportive program on mothers' empowerment in breast-feeding. *Bmj*. 2016;5:14-22.
10. World Health Organization. Training course on child growth assessment. WHO. 2008;5:17-25.
11. O'Brien J, Rinehart T. *Glob libr women's med*. ISSN. 2009;22:20-42.
12. McFadden A, Siebelt L, Marshall JL, Gavine A, Girard LC, Symon A, *et al.* Counseling interventions to enable women to initiate and continue breastfeeding: a systematic review and meta-analysis. *International Breastfeeding Journal*. 2019 Dec;14(1):1-9.
13. Rollins NC, Bhandari N, Hajeerhoy N, Horton S, Lutter CK, Martines JC, *et al.* Breastfeeding 2: why invest, and what it will take to improve breastfeeding practices. *Lancet*. 2016;387(10017):491-504.
14. Kandeel WA, Rabah TM, Zeid DA, El-Din EM, Metwally AM, Shaalan A, *et al.* Determinants of exclusive breastfeeding in a sample of Egyptian infants. *Open Access Macedonian Journal of medical sciences*. 2018 Oct 10;6(10):1818.
15. Santo LC, De Oliveira LD, Giugliani ER. Factors associated with low incidence of exclusive breastfeeding for the first 6 months. *Birth*. 2007 Sep;34(3):212-9.
16. Vieira TO, Vieira GO, de Oliveira NF, Mendes C, Giugliani ER, Silva LR. Duration of exclusive

- breastfeeding in a Brazilian population: new determinants in a cohort study. *BMC pregnancy and childbirth*. 2014 Dec;14(1):1-9.
17. Al Ghwass MM, Ahmed D. Prevalence and predictors of 6-month exclusive breastfeeding in a rural area in Egypt. *Breastfeed Med*. 2011;6(4):191-6.
 18. Van Dellen SA, Wisse B, Mobach MP, Dijkstra A. The effect of a breastfeeding support program on breastfeeding duration and exclusivity: a quasi-experiment. *BMC Public Health*. 2019;19(1):99-123.
 19. Renfrew MJ, McCormick FM, Wade A, Quinn B, Dowswell T. Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database Syst Rev*. 2012;5:11-41.
 20. Graffy J, Taylor J, Williams A, Eldridge S. Randomised controlled trial of support from volunteer counsellors for mothers considering breast feeding. *Bmj*. 2004 Jan 1;328(7430):26.
 21. Zong XN, Li H, Zhang YQ, Wu HH. Growth performance comparison of exclusively breastfed infants with partially breastfed and formula-fed infants. *PLoS One*. 2020 Aug 20;15(8):e0237067.
 22. Kramer MS, Kakuma R. Optimal duration of exclusive breastfeeding. *Cochrane Database of systematic reviews*; c2012.
 23. Qu P, Mi B, Wang D, Zhang R, Yang J, Liu D, *et al*. Association between the Infant and Child Feeding Index (ICFI) and nutritional status of 6-to 35-month-old children in rural western China. *PLoS One*. 2017 Feb 16;12(2):e0171984.

How to Cite This Article

Elsaadany BA, Elhawary EE, Ayad KM, Alshishtawy MM. Effect of continued support and mother's counseling on the duration of exclusive breastfeeding in a rural area in Egypt. *International Journal of Advanced Research in Medicine*. 2023;5(3):18-22.

Creative Commons (CC) License

This is an open-access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.