

## *On the Relationship between Social Support and Early Breastfeeding Termination*

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### **Abstract**

**Background:** There is no substitute to mother breastfeeding; on the one hand, mothers need all-out support, especially in the first days after delivery, which is one of the effective factors for women's success in breastfeeding.

**Objectives:** The aim of this study is to investigate the relationship between social support and early termination of breastfeeding.

**Methods:** This retrospective study examined the degree of social support for mothers embarking on early termination of breastfeeding. It covered a group of 235 individuals (150 individuals in the control group and 85 in the experimental group) as its participants. The data were collected through three separate questionnaires: The Multidimensional Scale of Perceived Social Support Questionnaire, the demographic questionnaire and the researcher-made questionnaire of evaluation of breastfeeding. The T-test, Mann-Whitney, chi-square and logistic regression tests were used for analysis by SPSS 16.

**Results:** The results revealed that compared to mothers in the experimental group, unwanted pregnancies ( $p=0.001$ ) and caesarian section deliveries ( $p=0.007$ ) were significantly more observed in the control group mothers. Those characterized by termination of breastfeeding received (about 22 times) weaker social support compared to the breastfeeding mothers ( $p<0.001$ , OR~22). Furthermore, the first breastfeeding upon birth was less (about 0.211 times) observed among the experimental group mothers than the group of mothers characterized by breastfeeding ( $p=0.006$ , OR~0.211).

**Conclusion:** Husband encouragement and support and high social support are highly effective in successful breastfeeding and in this line, all-out support for mother, including support by family and society, seem very necessary.

**Keywords:** social support, breastfeeding, termination of breastfeeding

### **Introduction**

Breastfeeding is an art and has no alternative in terms of nutritional value. Breastfeeding is the most important priority and is the best prelude to every baby's life [1]. The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) consider breastfeeding as the standard model of baby feeding, recommending breastfeeding in the first hour after

birth, exclusive breastfeeding in the first six months after birth and continued breastfeeding up to two years of age of the child [2-4]. Irrespective of the policies, 44% of babies receive breastfeeding in the first hour after birth, 40% in the first six months and 45% up to two years after birth on the average worldwide to the extent that a study showed that 34% of mothers turned to termination of breastfeeding in the exclusive

breastfeeding period due to such reasons as lack of social support and pressure of the relatives to start early supplementary feeding [1,5]. Based on global nutritional policies, exclusive breastfeeding up to six months of age should reach at least 50 percent up to 2025 [2].

Among benefits of breastfeeding reference should be made to less acute respiratory infection, preventing intestinal diseases such as diarrhea and less sensitive reactions like eczema. Moreover, early breastfeeding after birth affect uterine contraction, less bleeding after delivery and family planning. The breastfeeding mothers return to their pre-birth weight sooner [6,7]. Breastfeeding is effective in prevention of such adult diseases as obesity and diabetes, breast cancer, ovary and endometrium, premature menopause, arthritis and osteoporosis, resulting in strong emotional relationship between mother and the child [6,8,9]. Breastfeeding in the first six months will save lives of 1.5 babies to the effect that danger of the six- to 12-month babies' mortality is proved to be 1.4 to 1.6 times less compared to those feed other than breastfeeding [3, 6].

Breastfeeding is a behavior requiring awareness, acquisition of necessary skills and support for mother as well as building up mother's self-confidence [10]. Termination of breastfeeding comes as a result of internal and environmental factors. The intrinsic factors are mother- and child-oriented. Such factors as nipple scab or fissure, mother's image of insufficiency of breastfeeding, post-delivery pain, fatigue and child relevant factors like sleepiness and poor baby sucking, baby's demand pattern, dehydration and hypoglycemia of the baby. The environmental factors also include job conditions, type of delivery, parity, drinking, educational status, lack of enough knowledge on breastfeeding, limited mother movement, powder milk advertisement and lack of family support and guide [4,7,11].

Social support means the facilities provided for the person by others and also the type of awareness which make a person believe in being respected and loved by others, being regarded as a valuable and dignified person and affiliation to a social network of relations and mutual commitment [12]. Dimensions of social support include types of emotional support, instrumental, information support and evaluative support.

Emotional support has something to do with degree of kindness, perception and value a person receives from another party. Instrumental support is also referred to assisting individuals to remove their material needs. This might be in the form of workforce or money, evaluative support for others and offering appropriate suggestion and providing information support by preparing appropriate information to address special needs of an individual [13].

Mothers need to receive all-out support in the first days after delivery and support by husband, material grandmother and grandfather are effective factors in women's success in breastfeeding [14-16]. Emotional and objective support of husband will have positive impact on decision making and the period of breastfeeding [17]; this is while, studies in the literature failed to report the support given to mother during the breastfeeding period [18]. Reisi Dehkordi et al. conducted field study to decide the degree of effect of telephone counseling on continued and prolongation of breastfeeding period, found that the average period of exclusive breastfeeding period in proportion to week was more in the experimental group than the control group and phone counseling had significant relation with mothers' exclusive breastfeeding period [19]. A clinical experiment, aiming to explore the effectiveness of the breastfeeding support program in the case of up to three-month babies, found that the said program was 38% effective in the case of the control group participants and 30% effective for the experimental group participants and consequently the supportive program was not effective [20].

The most important psychological disorders, caused by lack or absence of social support, include depression, anxiety, isolation, indifference, hopelessness, stress and perception discrepancy, lower speed of reaction to environmental instigators, low self-dignity and inability to control life affairs [21]. Support for breastfeeding will guarantee baby health and affect other factors such as less obesity and absence of post-delivery depression [4,22]. Women, deprived of social support, suffer the hypothalamus-pituitary-adrenal mal functioning, which give rise to higher level of cortisol and checking and curbing start of breastfeeding [23].

Regarding likely effect of the environmental factors on termination of breastfeeding, it seems that social support is an economical factor and is effective in continued breastfeeding. Therefore, this research is done to investigate relationship and degree of social support for mothers, thus taking a step towards stronger social support and prevention of termination of breastfeeding in exclusive breastfeeding period.

### Methods

This case control study is a retrospective analysis with the aim of assessing and comparing the degree of social support for the mothers who experienced early termination of breastfeeding or continued breastfeeding. This research was conducted on approval of the 162<sup>nd</sup> session of the Ethics Committee (December 7, 2014). The study samples were all mothers having six to nine-month child, who had necessary criteria to be admitted to the health and medication centers in Lahijan in 2015. Before the study, the participants were briefed on the research and the goals as well as confidentiality of the information. They were asked to offer informed consent and participated in the study voluntarily without any force. The control group were the mothers who were busy breastfeeding up to six-month age of their child and the experimental group mothers were all the mothers who had terminated breastfeeding at less than sixth month of their child's life. The criteria for participation in this study were being Iranian, married while living with husband for the last six months, delivery to a single baby, having healthy baby and their baby being the first baby of the family. The criteria for leaving the research were suffering any medical and mental disease, having bitter experience of death of their beloved ones over the past six months, drinking alcohol, smoking, addiction with drugs and hallucinations and taking the medicine that would be contra indication effect during breast feeding. Other criteria were hospitalization of the mother or the baby after childbirth and the baby's suffering a distinguished illness in the first six months after birth. Then those not answering all the questionnaire items were discarded from the study.

Samples were taken from all the health and medication centers in Lahijan. Urban centers included five centers, where the sample size in

proportion to each center was subject to quota in proportion to the population coverage. Eventually, the samples were taken from all the urban health and medication centers in Lahijan based on the availability sampling method. Number of the samples was 57 in center 1, 77 in center 2, 27 in center 3, 27 in center 3, 42 in center 4, and 32 in center five. Minimum sample size was estimated based on the results of Denis et al. under the title of the effect of peer support on breast-feeding duration among primiparous breast-feeding mothers [24], using the following formula:

$$n = \frac{[z_{(1-\alpha/2)} + z_{\beta}]^2 * [(p_1 * (1-p_1)) + (p_2 * (1-p_2)/k)]}{(p_1 - p_2)^2}$$

P1: Ratio of termination of breastfeeding in the supported group=18%

P<sub>2</sub>: Ratio of termination of breastfeeding in the group not supported=33% :

$$\alpha=0/05 \quad \beta= 0/2 \quad n=146$$

Initially, number of the samples in each group was set to be 146. However, since the number was not in the said group, the NESS software was used and by reversing the balance, the least number of the sample in the breastfeeding group was set to be 130 and in the group with breastfeeding termination was minimized to 65. Eventually, due to possibility of the sample mortality during the study, the number of samples in the breastfeeding group was decided to be 150 and, in the group characterized by breastfeeding termination, it was set to be 85.

The data was collected using three separate questionnaires: The Multidimensional Scale of Perceived Social Support Questionnaire, the demographic questionnaire and the researcher-made questionnaire of evaluation of breastfeeding. The Multidimensional Scale of Perceived Social Support was prepared by Zimet et al. (1988) to assess perceived social support by family, friends and relatives in the person's life. The scale consisted of 12 items with three categories of perceived support by family (four items), perceived support by others (four items), perceived support by friends (four items)

All the items of the scale were graded based on the seven-point Likert scale, ranging from 'Fully agree' to 'Fully disagree' with the score ranges of 12 to 84. Salimi et al (2009) provided the Persian copy of the instrument [25]. The test gave one point to the choice 'Fully disagree,' two points to

'Disagree,' three points to 'Almost disagree,' four points to 'No comment,' five points to 'Almost agree,' six points to 'Agree,' and 7 points to 'Fully agree.' The scores 12-48 specify the low social status, 49-68 the average social status and 69-84 the high social status. The demographic information questionnaire and the researcher-made questionnaire consisted of questions on personal information of the population under study. Among the specifications were age, age of husband, the job of mother and the father, the period of marriage, the educational status of mother and father, the ownership status of the residence which were gathered by the researcher through interview. The researcher-made questionnaire of mother breastfeeding evaluation also included 11 questions that aimed to evaluate feeding on mother's milk.

Using Cronbach's alpha, the literature sets reliability of the Multidimensional Scale of Perceived Social Support at between 0.9 and 0.86 for sub-scales and 0.86 for whole the scale. Estimation of validity of the questionnaire has also been reported to be in adequate status through content validity through main component method [25,26]. This research gained a figure of 0.86 for the purpose, using Cronbach's In order for reliability of the questionnaire, modified using Hashemi et al. questionnaire (2011) as model and the views of the content experts for revision, will be estimated, using Cronbach's alpha formula. In order to determine the validity of the questionnaire of evaluation of breastfeeding, the researcher used content validity. This study used qualitative content validity method to decide the validity of the questionnaire used in this study. Therefore, the questionnaires were given to a group of 10 members of the board of instructors in Midwifery Department and Pregnancy Health Department of Shahid Beheshti University of Medical Sciences and after investigating the proposals, necessary amendments were made based on the views of the supervisor and advisor. The Cronbach's alpha coefficient was set to be 0.85.

All the questionnaires were filled up by the interviewer; however, this study faced the limitation that the issue of women's private relation with their husband was especially touched less by women and certain women were found to

be likely refraining to answer pertinent questions due to their shame. However, the questionnaires were filled up by the participants themselves as they were informed that need not to mention their name and other specifications. This to some extent lowered the degree of study limitations.

To describe the data, mean, standard deviation, median, range, frequency and percentage were used. To compare results of the two groups, the T-test, Mann-Whitney and chi-square tests were used. Eventually, logistic regression was used to remove the effect of likely confounding variables and find concurrent effect and compare data of the variables. SPSS 22 was used for analysis of all the data.

### **Results**

Results of the study on the experimental and control groups showed that majority of mothers fell within the age range of 26-30 and majority of fathers were in the age range of 31-35. Some 91.07% of mothers had no family relation with their husband and the period of marriage of more than half of the samples was less than five years. Some 54.04% of mothers and 50.64% of their husband had academic education. Majority of the mothers (81.7%) were housewives and husband of majority of the group had free jobs. About 69% of the families had an income between 400,000 and one million tomans and less than half of them samples were main owners of their residence. About 86% of the samples were primiparous and 82% of the pregnancies were wanted. Almost half of the mothers claimed their personal interest was their main motivation for breastfeeding and the period of breastfeeding termination for about 54% of the mothers was by up to two months. According to the mothers, the most prevalent cause of breastfeeding termination was insufficient mother milk (44.71%) and child's refusal for unknown reasons (34.11%). Majority of the mothers also started supplementary feeding on the sixth month (94.12 vs 96.6).

Samples of both groups were homogeneous in terms of such variables as age of father and mother, family relationship, period of marriage, monthly income, housing condition, times of marriage, number of pregnancies and abortion and sex of child (Table 1).

Table 1: Table of Variable Homogeneity

Variable	Groups		P value
	Breast Feeding	No Breast Feeding	
Mother's Age* (in Year)	3.8±27.82	4.9±28.12	0.6
Father's Age* (in Year)	3.9±30.95	4.5±31.18	0.9
Family Relationship** (Percentage)	7.34	11.77	0.2
Period of Marriage* (In Year)	2.3±5.12	2.1±4.65	0.1
Monthly Income* (Mean Rank)	119.5	115.2	0.6
Housing Status** (Percent)	Owner	52	40
	Rent or Bargain	38	43.52
	Organizational House	1.33	8.24
	Living with Family	8.67	8.24
Marriage Rank* (Mean Rank)	117.6	118.6	0.6
Pregnancy Count* (In Number)	0.4±1.12	0.4±1.18	0.2
Abortion Times (In Number)	0.4±0.12	0.4±0.18	0.2
Baby Sex** (In Percent)	Girl	48	48.24
	Boy	52	51.76

\*Mann-Whitney \*\* Chi Square

Educational status (P=0.006) and number of employed mothers (P=0.008) in the experimental group was significantly higher than that in the control group. Furthermore, number of the unwanted pregnancies (P=0.001) and caesarian section deliveries (P=0.007) was significantly higher in the breastfeeding termination group than that in the breastfeeding group. The first

breastfeeding and encouragement and support of husband was significantly higher than that in the breastfeeding group compared to the experimental group (P>0.001). The frequency of mothers in the two groups of breastfeeding and breastfeeding termination is reported separately in proportion to the items of the perceived social support questionnaire (Table 2).

Table 2: Frequency Distribution of Mothers in Research Groups in Proportion to Questionnaire Statements of Perceived Social Support

Item		Fully Disagree	Disagree	Almost Disagree	No Comment	Almost Agree	Agree	Fully Agree
		Frequency	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency
1. There is special person who would help me if needed.	Breast Feeding	7	1	1	4	26	31	80
	No Breastfeeding	9	1	1	1	29	26	18
2. There is special person with whom I share my sorrows and happiness.	Breast Feeding	2	2	2	3	12	39	90
	No Breastfeeding	2	3	6	5	23	25	21
3. My family really try to help me.	Breast Feeding	5	2	2	0	17	44	80
	No Breastfeeding	7	6	4	5	24	18	21
4. I receive necessary support and help from my family.	Breast Feeding	3	1	7	3	12	37	87
	No Breastfeeding	11	2	7	2	20	23	20



<b>5. I have a special person who is source of tranquility for me.</b>	Breast Feeding	5	1	1	2	7	24	110
	No Breastfeeding	11	4	1	3	17	27	22
<b>6. My friends really try to help me.</b>	Breast Feeding	27	6	7	15	28	34	33
	No Breastfeeding	33	6	1	8	17	10	10
<b>7. I can count on my friends at times of misfortune.</b>	Breast Feeding	30	6	8	13	29	34	30
	No Breastfeeding	37	12	1	10	15	9	1
<b>8. I can speak with my family about my problems.</b>	Breast Feeding	15	7	0	7	22	31	68
	No Breastfeeding	21	11	6	1	18	12	16
<b>9. I have friends with whom I can share my sorrows and happiness.</b>	Breast Feeding	30	6	2	4	22	34	52
	No Breastfeeding	32	8	18	3	18	19	3
<b>10. There is no special person in my life to pay attention to my feelings.</b>	Breast Feeding	1	0	2	4	10	23	110
	No Breastfeeding	10	5	2	4	18	21	25
<b>11. My family like to help me with decision making.</b>	Breast Feeding	14	2	3	5	23	23	70
	No Breastfeeding	15	4	2	10	25	10	19
<b>12. I can speak with my friends about my problems.</b>	Breast Feeding	35	0	4	6	39	28	38
	No Breastfeeding	43	10	1	5	19	4	3

In the logistic regression analysis, the “high” social support group was taken as the reference group and taking other variables as stable, the chance of “weak” social support for those characterized by breastfeeding termination was significantly (about 22 times) more than that for the group not terminating breast feeding ( $p < 0.001$ , OR~22). Furthermore, the chance of having “average” level of social support for those characterized by breastfeeding termination was significantly (about seven times) more than the

group not having breastfeeding termination ( $p < 0.001$ , OR~7). Moreover, the group of child first breastfeeding by somebody other than mother was taken as the reference group and taking the chance of the first experience of feeding on mother breastfeeding upon birth, the case of those characterized by breastfeeding termination, was significantly (about 0.211 times) less than the group characterized by breastfeeding ( $p = 0.006$ , OR~0.211). (Table 3).

**Table 3: Results of Logistic Regression Analysis to Study Effect of Social Support in Breast Feeding Condition Moderated by confounding Variables**

Variables	Coefficient Estimate (B)	Standard Error	Standardized Coefficient	P value
<b>Social Support</b>	Weak	3.074	21.639	P≤0/001
	Average	1.889	6.991	P≤0/001
	High		Reference Group	
<b>Pregnancy</b>	Wanted	-0.482	0.668	0.314
	Unwanted		Reference Group	
<b>Education</b>	Non-Academic	-0.628	0.534	0.117
	Academic		Reference Group	
<b>Mother's Job</b>	Housewife	-0.408	0.665	0.395
	Employed		Reference Group	
<b>Delivery Method</b>	Natural	0.839	0.432	0.066
	Caesarian		Reference Group	
<b>Baby Initial Feeding Since Early Birth</b>	Breast Feeding	1.557	0.211	0.066
	Other than Breast Feeding		Reference Group	
<b>Encouragement and Support of Husband</b>	Yes	-1.242	0.289	0.085
	No		Reference Group	

### Discussion

This study found that the mean age of mothers, characterized by termination of breastfeeding was 28.12 years, while that for the breastfeeding mothers was 27.82 and there was no significant relation with termination of breastfeeding. That falls in the same vein with the literature findings [10,27]. Certain other studies showed significant difference between age of mother and the breastfeeding period [28-31]. Kehler et al. proved that young age of mother was the reason for termination of breastfeeding. Furthermore, Jamshidi Evanaki et al. proved that older age enhanced the period of breastfeeding [28,30]. The difference might have been caused by homogeneity of the samples caused by the researchers.

This study found that highest percentage of breastfeeding termination (54.04%) was associated with the mothers having academic education. The relationship was observed in certain studies as well [10,30,32-34]. Certain studies did not report such a difference [19,27, 28,35]. Due to the same reason, more participation of the illiterate women in social activities and less time spent on childbirth and taking care of the child and breastfeeding. Consequently, it is necessary to include in the programs for promotion of breastfeeding to

encourage mothers having higher educational status, especially those having academic education, to turn to breastfeeding. Of course, regarding the results contradictory to present findings, the influence of society and culture on breastfeeding should not be taken for granted.

This study found that majority of the participants in both groups were housewives and the groups under study were not significantly different in terms of mother job. Results also showed that breastfeeding termination was most observed among the employed mothers. Kehler *et al.* showed that mother's job was an effective factor in breastfeeding termination and the degree of breastfeeding termination was more among the employed women than housewives. Certain other studies reached similar results [28,32,34,36]. Other studies, did not observed significant difference between mother's job and period of breastfeeding [19,28,33,35]. Compared to the less literate mothers, it seems that besides educational status, other factors like mother's job make those with higher educational achievement have improper function due to other factors like employment outside home [10]. Mother's employment result in less constant relationship between the baby and mother's lack of preparedness both psychologically and physiologically, that give rise to fatigue and low

possibility of full and effective breastfeeding [33]. Therefore, all-out support for employed mothers is necessary to successfully implement breastfeeding plans.

A look into results of this study further revealed that pregnancy of majority of mothers in both experimental and control groups, was wanted and significant difference was observed between the two study groups in terms of wanted and unwanted pregnancies ( $p=0.001$ ). Certain studies observed significant difference between pregnancy and breastfeeding period [19,36] Rahimzadeh et al. showed that breastfeeding period was longer among women characterized by unwanted pregnancy [36]. Therefore, caretaking centers need to pay special attention to women with unwanted pregnancy. This study failed to observe any significant difference in terms of number of pregnancies, abortion and child sex. Majority of studies also did not prove any relation between child sex and breastfeeding period [19, 30,32,37].

This study showed significant difference between the study groups in terms of the type of delivery ( $p=0.007$ ). In the same vein, Eslami *et al.* proved relation between successful breastfeeding and type of delivery [38]. Other studies did not observe any significant relation, however [19,32,35]. This study results showed that breastfeeding termination by mothers who delivered their baby through caesarian section, was more possible compared to mothers experiencing vaginal delivery of baby. Regarding the two groups' difference in terms of breastfeeding, caesarian section delivery could have unfavorable impact on emotional relationship between mother and the baby. The difference might have been caused as a result of mother's suffering pain and unhappiness due to surgery, anesthesia and hormonal imbalance after natural delivery as well as lack of sufficient relationship between mother and the baby. Furthermore, injection of drugs following caesarian delivery might have affected baby's natural reflexes in early hours after birth. This is while, the possibility of breastfeeding increases following vaginal birth automatically without using any instrument and medicine and mother's immediately touching the baby after birth [39]. Therefore, the mother experiencing caesarian delivery needs more support, especially in

connection with the quality of child caretaking while they are hospitalized.

Results of this study showed that compared to mothers in the breastfeeding termination group, more mothers in the breastfeeding group started the first child breastfeeding as early as birth and this was significantly different ( $p<0.001$ ). Hosseini et al. found there was significant relationship between breastfeeding in the first two hours and the period of breastfeeding [32], while Jamshidi proved that period of breastfeeding among mothers, who were busy breastfeeding in the first two hours after delivery, was significantly increased [28].

This study revealed that majority of those under study in both groups of experimental and control received the husband's support (84.71% of mothers in the group characterized by termination of breastfeeding and 96.66% of mothers in the breastfeeding group) which was significantly different ( $p<0.001$ ). There were studies in the literature which supported this study results but Karamollahi did not confirm them (17,36,40).

This study found insufficient mother milk and child refusal as the most prevalent reasons for termination of breastfeeding. Results of a study by Kamali and Amini fall in the same vein [10,37]. Khayati, however, showed that mother's idea of sufficient period of breastfeeding, feeling of insufficiency of breastfeeding and absence of support, especially on part of husband, were the main reasons for termination of breastfeeding [33]. With regards to insufficient breastfeeding, mother's awareness of the issue is of importance: Providing right definition on sufficient breastfeeding and identification of reasons that give rise to insufficient breastfeeding, which should be avoided.

Based on the results of this study, social support and the first child feeding as early as birth were effective factors in termination of breastfeeding with moderation of the confounding factors and compared to others, weak social support had the highest effect. Tork Zahrani showed that one of the main reasons for short period of breastfeeding is lack of support and encouragement by the family and the health and medication staff [41]. Other studies also confirmed the issue [9,30] McArtur et al., however, did not consider mother support during breastfeeding as effective. Moreover, Cools et al. proved there is no



significant relationship between the support program and prolongation of the breastfeeding period [18,20,29]. Perhaps the reason for difference between results of this study and the previous studies is difference in the social and cultural factors governing the research environment and the effect of the education provided to the test receivers.

This study showed that unwanted pregnancy coupled with higher educational status of mother, caesarian section, mother's employment and the baby fed on milk since birth will be tantamount to termination of breastfeeding. Among other factors are the effective of encouragement and support of husband and high social support to the extent that the mothers' breastfeeding increases. Therefore, it is recommended to consider counseling, education and special care for mothers during breastfeeding. Husband's support as a less expensive and economical method can be influential in preventing termination of breastfeeding and prolongation of breastfeeding by mothers. Consequentially, it will be highly beneficial in general scale in cutting health expenditures and improvement of the bio indexes in the country. Therefore, directors of midwifery education are recommended to pay more attention to encouragement of people and families to identify needs of mothers and allocate hours of curriculum to address the mental and emotional needs of mothers and upgrade them.

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### Conflict of interest

The authors have no conflict of interest to declare.

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