

Psychosocial Effect of Breast Feeding on Mothers attending Banha Family Health Center, Qalyubia Governorate - Egypt

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Abstract:

Background: In the first six months of life, breastfeeding has been identified as the most complete form of nutrition. There are many factors that can affect the exclusive breastfeeding practice. The aim of this study was to assess psychosocial effect of breast feeding as perceived stress, social support and breastfeeding self-efficacy among first-time mothers. **Methods:** A cross-sectional study conducted from the 1st of August 2019, till the end of June 2020, on 176 first time breastfeeding mothers using a predesigned structured questionnaire. **Results:** At six months of their infant age, about half of studied mothers (52.3%) had partial breastfeeding and 47.7% had exclusive breastfeeding and no women discontinued breastfeeding. There was a statistically significant effect of maternal employment ($P < 0.001$), socioeconomic state ($P < 0.001$), and mode of delivery ($P = 0.029$) on exclusive breast feeding practice, while there is non-statistically significant effect of perceived stress scale, social support scale and breast self-efficacy scale on that. **Conclusion:** Exclusive breastfeeding has a significant relation with maternal employment, with socioeconomic status and mode of delivery. It didn't add a perceived stress on first time mothers, and didn't affected by social support nor perceived breast feeding self efficacy.

Keywords: Breast, Feeding, Psychosocial, Stress

Introduction:

In the first six months of life, breastfeeding has been identified as the most complete form of nutrition.⁽¹⁾ Exclusive breastfeeding during the first six months of life with proper weaning till two years of child age are the recommendation of the world health organization (WHO) which is consistent with the American Academy of Pediatrics (AAP).⁽²⁾

Many projects were conducted in Egypt to improve child health. "Healthy Mother, Healthy Child HMHC (1993-2009)" project was one of these projects, aimed to decrease the risk of neonatal and maternal mortality and produced satisfactory outcomes in nine

Egyptian governorates, areas was known to have the worst health statistics.⁽³⁾

Also, the Integrated Management of Childhood Illness project was developed in Egypt to encourage the exclusive breastfeeding for six months, educate the breastfeeding mothers about the healthy diet, providing and improving accessibility to postnatal supplements at low cost.⁽⁴⁾

There are many factors that can affect the exclusive breastfeeding practice. The influences of psychosocial factors and breastfeeding self-efficacy are yet unknown in the Egypt. In order to improve the current rate of breastfeeding in the Egypt, psychosocial factors that can be modified

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with appropriate intervention strategies need to be identified.

So, this study aimed to assess psychosocial effect of breast feeding as perceived stress, social support and breastfeeding self-efficacy on the first-time mothers and their effect on breast feeding practice.

Subjects and methods: A cross-sectional study was conducted at immunization clinic in Banha Family Health center, Qalyubia governorate, Egypt.

The inclusion criteria of participants were first-time mothers, over 18 years of age, initiated breastfeeding immediately after birth, and having a healthy infant between 6 and 9 months of age. Mothers who have had previous still birth, low-birth weight infants (≤ 2500 grams), and any health conditions of infant or mother that interfered with breastfeeding were excluded from the study.

The sample size was calculated based on the documented prevalence of exclusive breast feeding in Egypt which was 13%⁽⁵⁾ and using the following formula;

$$\text{Sample size} = \frac{(Z_{1-\alpha/2})^2 p (1-p)}{d^2}$$

Description:

$Z_{1-\alpha/2}$ = is standard normal variate (at 5% type 1 error ($P < 0.05$) it is 1.96)

p = Expected proportion of exclusive breastfeeding (13 %).

d = Absolute error or precision (0.05)

The calculated sample size was 176 participants. They were chosen using systematic random sampling technique. The mothers fulfilled the inclusion criteria and attended the clinics for immunization and well-baby visits from 10:00 am till 1:00pm for two days per week (Saturday and Tuesday), were selected systematically one for each 3 mothers till the sample size was reached.

Some operational definitions are used in the current study:-

- **Exclusive breastfeeding mothers:** including mothers who provided only breast milk with no additional supplementation of any kind of food or drink, except syrups, vitamins, and minerals for the first six months of life.
- **Partial breastfeeding mothers:** including mothers who offered some combination of breast milk and supplemental formula throughout the first six months.
- **The study variables:** including sociodemographic characters of mothers, perceived stress of breast-feeding, social support and breast-feeding self-efficacy.

The participants of the study were evaluated through interview using a predesigned structured questionnaire. The questionnaire included the following parts:-

- **Socioeconomic Status:** (For assessment of socioeconomic standard based on Fahmy *et al.*,⁽⁶⁾ The questionnaire included ten domains: woman and husband education, woman and husband occupation, computer use, per capita income, family size, crowding index, sewage disposal, and refuse disposal and if mother married, divorced or widow. The socioeconomic level was classified into three categories depending on the total score (High > 70%, Middle 40-70% and Low < 40% of total socioeconomic questionnaire score).
 - **Self-efficacy short form (BSES-SF) questionnaire:** (for assessment of breastfeeding self-efficacy): This questionnaire contains 14 items to assess satisfaction of first time mothers regarding effectiveness of breastfeeding process, breast milk amount, adaptation with different positions and different situations of breast feeding all assessed with five-point Likert-type response scales. All items are positively worded. Higher summed scores indicate higher levels of breastfeeding self-efficacy; there are no cut-off scores.
 - **Social provision Scale (SPS)-short version:** (for assessment of social support of family, friends), using a four-point Likert-type scale, ranging from one (strongly disagree) to four (strongly agree). The scores were obtained by calculating the total sum of all item responses after reverse coding the negatively worded items; higher scores indicate higher perceived support
 - **Perceived stress scale (PSS-10):** (for assessment of perceived stress). The PSS-10 is a 10-item, five-point Likert-type scale ranging from zero (never) to four (very often), producing total scores that range from 0 to 40. There are four positively stated items (4, 5, 7, and 8). The total score was obtained by summing all the ten scale items with reverse scoring responses: 1, 2, 3, 4-Reverse, 5-Reverse, 6, 7-Reverse, 8-Reverse, 9, and 10. Higher scores indicated higher levels of perceived stress.
 - **Breastfeeding Practice Questionnaire:** It includes questions about the following: the categories of breastfeeding (e.g., exclusive, partial, discontinued), the duration of breastfeeding, breastfeeding support, sources of breastfeeding support, type of supplements if introduced prior to six months of infant age, reasons for breastfeeding cessation.
- All the questionnaires were adopted in Arabic versions in order to match participants` culture.⁽⁶⁻⁹⁾ The Arabic version was reviewed by a panel of three senior researchers in family medicine to ascertain accuracy of translation to be easily

understood. Content validity index (CVI): percentage of total item rated by expertise as either 3 or 4. The score of $\geq 80\%$ is generally considered to have a good validity. CVI of the designed questionnaires was calculated. It was 85%. Reliability of the questionnaire was calculated using SPSS version 20 using Cronbach's alpha which was ($r = 0.8$). Hence, the questionnaire reliability was confirmed.

A pilot study was performed on 20 mothers and they weren't included in the study. It was done to ensure validity of the questionnaire.

Statistical analysis: Coded data was entered on the computer using a database developed for data entry on Microsoft Office Excel program for windows, 2010. Then the data were transferred to the Statistical Package of Social Science, version 20 (SPSS – v 20) for quantitative data analysis.

Quantitative data was expressed as mean and standard deviation ($X \pm SD$) and analyzed by Student t- test for comparison of two groups of normally distributed variables. Qualitative data were expressed as number and percentage. Data were analyzed using X^2 test at p - value < 0.05 , statistical significance was assumed.

Ethical considerations: The study was approved by the ethical committee of the Menoufia faculty of medicine

(19819FAML). All participants were assigned written consent (finger print of illiterate participants were obtained) after illustrating the purpose and procedure of the study.

Results:

The included mothers were stratified into two groups according to their breast-feeding (BF) practices. About half of mothers 52.3% had partial breastfeeding at 6 months, and 47.7% had exclusive breastfeeding at 6 months (Figure-1).

There was a statistically significant difference between breast feeding categories regarding mother employment, socioeconomic state, and mode of delivery as exclusive breast feeding was more among non working mothers 79.8%, low socioeconomic stander 66.67 % and mothers who delivered with cesarean section 72.62%.

There was non-statistically significant difference between breast feeding categories and neither of maternal age, maternal education, infant age nor infant sex (Table - 1). There was non-statistically significant effect of perceived stress , social support and breast self-efficacy on exclusive continuity of breast (Table-2).

Discussion:

This study aimed to assess the psychosocial effect of breast feeding as

perceived stress, social support and self-efficacy on first-time mothers and their effect on breast feeding practice. In this study, there was a statistically significant effect of mother employment, and breast-feeding category as regarding exclusive breastfeeding mothers had a higher percentage among non-working mothers.

This was in agreement with Saudi study by Al-Ruzaihan *et al.*⁽⁷⁾, who observed a statistically significant difference of employment of mothers and breast feeding their babies aged 3 to 5 months or from 9 to 11 months.

It is due to working mothers so the child receive artificial formula during the time of mother's work; however, the same study showed that there was no significant difference between working and non-working mothers breast feeding babies aged less than 2 months.

In contrast to a study conducted in Iran by Jalal *et al.*⁽⁸⁾, who observed no significant difference between group with exclusive breast feeding and nonexclusive breast feeding regarding mother employment.

In the current study, there was a statistical significant difference between breast feeding category regarding socioeconomic state as exclusive breastfeeding mothers had a higher percentage of mothers with low socioeconomic state than partial breast

feeding group. Our results agreed with Egyptian study by Farag *et al.* 2020⁽⁹⁾, who observed a statistically significant relation between breastfeeding and socioeconomic status of participants.

In contrast to Jalal *et al.*⁽⁸⁾, in Iran, who observed no significant difference between group with exclusive breast feeding and -exclusive breast -feeding regarding socioeconomic status -

The relation between socio-economic factors and breast-feeding practice has been showed by Tan. 2011⁽¹⁰⁾, who reported that exclusive breast- feeding was more prevalent in mothers of low income than high income mothers (49.4% and 72.2% respectively) in Malaysia.

They contributed that to the cost of artificial formula that impedes mothers from getting it and force them to exclusively breast-feed their babies

In this study, there was a statistically significant difference between breast feeding category regarding mode of delivery, exclusive breastfeeding mothers had a higher percentage of mothers with normal vaginal delivery than partial breast feeding group.

The current results agreed with Hobbs *et al.*⁽¹¹⁾, in Canada, who found associations between mode of birth and breastfeeding through different times as first attempt of

breastfeeding, within the first 24 h after delivery, and on leaving the hospital.

Also, discontinued breastfeeding ≤ 12 weeks postpartum was more common in mothers with emergency c-section. This study justified this result by that mothers delivered by cesarean section had more pain and more liable to develop breastfeeding difficulties related to them (sore nipples, swollen breasts, perceived low milk supply or having flat or inverted nipples) or their babies (latching, positioning or a sleepy baby).

These difficulties were found to be more prevalent in mothers with cesarean section delivery as mentioned in studies conducted in England by Brown and Jordan,⁽¹²⁾ and in Turkey by Cetisli *et al.*⁽¹³⁾. Also, women with c-section has delayed onset of lactation due to physiologic mechanisms that affect lactogenesis^(14&15).

In this study, there was non-statistically significant difference between breast feeding category and neither of maternal age, maternal education, marital status, infant age nor infant sex.

Current results agreed with Jalal *et al.*⁽⁸⁾, who observed no significant difference between group with exclusive breast feeding and nonexclusive breast feeding regarding maternal age, maternal education, or infant sex, Another study in Kuwait by Dashti *et*

al.⁽¹⁶⁾, found no association between breastfeeding and socio-demographic factors as maternal age, employment, education, and parity.

In contrast with study conducted in Nepal by Acharya and Khanal,⁽¹⁷⁾ concluded that early initiation of breastfeeding and exclusive breastfeeding during the first week of infant life were more prevalent among educated mother.

The infant sex did not have significant relation with breastfeeding rates. In contrast to a study from Nigeria conducted by Agho *et al.*⁽¹⁸⁾ which reported that infants of female sex were more likely to be exclusively breastfeed than male infants.

On the other side, an Egyptian study done by Ghwass and Ahmed⁽¹⁹⁾ showed the reverse as the male infants were more exclusively breastfed than females. These differences might be due to social and cultural factors which led to difference in the feeding practices according to the infant gender.

In this study, there is non-statistically significant effect of breast feeding on perceived stress scale, social support scale and breast self-efficacy scale. .

Current results matched with Hinic⁽²⁰⁾, as there was no association between perceived stress and continuity of breast feeding . However, Turkish study by Nursan

et al.⁽²¹⁾, observed that the mean scores of breastfeeding self efficacy were higher in mothers who received training for breastfeeding than other mothers without training and there was a statistically significance between score scale.

In contrast to our study, other studies^(22,23) showed that the appropriate interpersonal communication, mass media, besides mothers support by the health personnel, are the factors that affect the breastfeeding.

Finally, this study found that the prevalence of exclusive breastfeeding was 47.7% among the participants. There was a significant association between breastfeeding and socioeconomic status, and mode of delivery, also maternal employment acts as barrier to breastfeeding.

Limitations of the study: Illiterate mothers had difficulty in reading and understanding of the questionnaire that needed extra-effort of the researchers to explain and simplify the meaning to obtain and fill the required data form them

Conclusion: Exclusive breast-feeding is affected by maternal employment and socioeconomic status of mothers. It added no perceived stress on first time mother and not affected by social support or breast-feeding self efficacy.

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Conflicts of interest: No conflicts of interest

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Table (1): Relation between sociodemographic characteristics and Breast-feeding (BF)
Category

Parameter	Exclusive BF (n=84)		Partial BF (n=92)		χ^2	P value
	No	%	No	%		
Maternal age (years)						
▪ 18-20	6	7.1	14	15.2	4.331	0.115
▪ 21- 31	66	78.6	60	65.2		
▪ >31	12	14.3	18	19.6		
Maternal education						
▪ Illiterate/ Read And write	16	19.0	8	8.7	5.268	0.153
▪ Primary/Preparatory	16	19.0	14	15.2		
▪ Secondary (general-technical)	12	14.3	14	15.2		
▪ Higher education	40	47.6	56	60.9		
Mother's employment status						
▪ Full Time (at least 35 hours/week)	9	10.7	26	28.2	13.05	0.001
▪ Part-time	8	9.5	16	17.4		
▪ Not Working	67	79.8	50	54.3		
Mother's marital status						
▪ Married	77	91.7	81	88	0.62	0.428
▪ Divorced, Widowed	7	8.3	11	12		
Socioeconomic status						
▪ Low	56	66.67	22	23.9	36.3619	< 0.001
▪ Medium	21	25	64	69.56		
▪ High	7	8.33	6	6.52		
Infant age (Months)						
▪ 6 months	64	76.2	65	70.7	0.688	0.407
▪ 7-9 months	20	23.8	27	29.3		
Infant sex						
▪ Male	54	64.3	50	54.3	1.794	0.180
▪ Female	30	35.7	42	45.7		
Mode of delivery						
▪ Vaginal Delivery	23	27.38	13	14.13	4.7382	0.029
▪ Caesarean section	61	72.62	79	85.87		

 χ^2 : Chi square test

P- value for association between different categories

Table (2): The Relation between the psychosocial variables and breast-feeding (BF) Category (N = 176)

Parameter	Exclusive BF (n=84)	Partial BF (n=92)	Total (n=176)	t-test	P value
Perceived Stress scale					
▪ Min. – Max.	14.00 – 28.0	12.00 – 30.0	12.0 – 30.0	1.428	0.155
▪ Mean ± SD.	22.62 ± 3.58	21.72 ± 4.76	22.15 ± 4.25		
Social Support scale					
▪ Min. – Max.	16.0 – 31.0	15.0 – 33.0	15.0 – 33.0	0.970	0.333
▪ Mean ± SD.	24.55 ± 4.48	23.91 ± 4.20	24.22 ± 4.33		
Breast self-efficacy					
▪ Min. – Max.	27.0 – 58.0	21.0 – 64.00	21.0 – 64.00	1.547	0.124
▪ Mean ± SD.	45.29 ± 7.89	43.24 ± 9.50	44.22 ± 8.80		

Student t-test

*: Statistically significant at $p < 0.05$

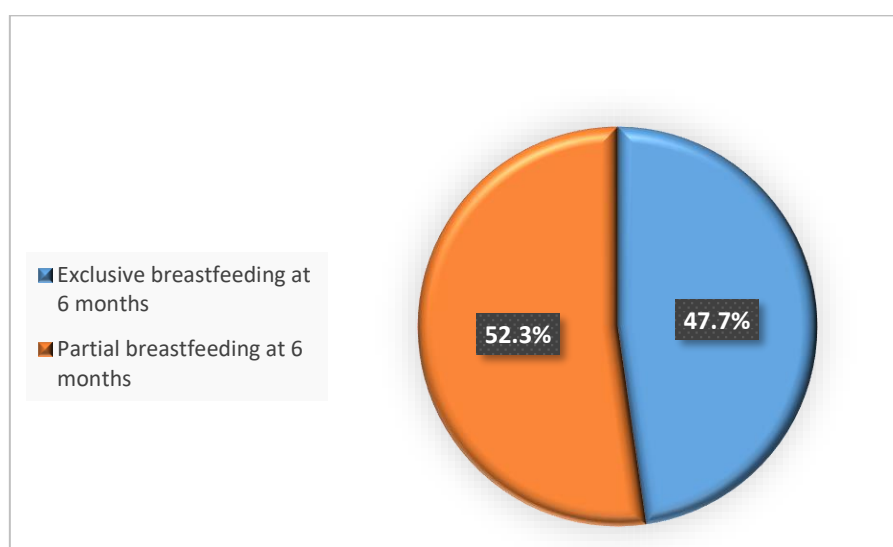


Fig (1) : Breastfeeding categories of the studied groups

الملخص العربي

التأثير النفسي والاجتماعي للرضاعة الطبيعية على الأمهات المترددات على مركز بنها لصحة الاسرة بمحافظة القليوبية – مصر

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مقدمة البحث: تعتبر تغذية الرضع أمرًا بالغ الأهمية من أجل إرساء أساس صحي للنمو والتطور. تم تعريف الرضاعة الطبيعية على أنها الشكل الأكثر اكتمالاً للتغذية في الأشهر الستة الأولى من حياة الرضيع طبقاً لمنظمة الصحة العالمية. **الهدف من البحث:** هدفت هذه الدراسة الى تقييم التأثير النفسى والدعم الاجتماعى والشعور بالاكْتفاء الذاتى للرضاعة الطبيعية وتحديد تأثيرها على ممارسة الرضاعة الطبيعية لدى الأمهات لأول مرة. **طريقة البحث:** اشتملت الدراسة على ١٧٦ من الأمهات المرضعات لأول مرة ، تم اختيارهن باستخدام عينة عشوائية لغرض الدراسة. تم تقسيم الأمهات إلى ثلاث مجموعات وفقاً لممارسات الرضاعة الطبيعية الخاصة بهم والتي تم تحديدها بعد ستة أشهر من الولادة. تم وضع إطار العمل مفهوماً للارتباطات بين العوامل النفسية والاجتماعية المختارة للأم من (١) التأثير النفسى ، (٢) الدعم الاجتماعى ، و (٣) الشعور بالاكْتفاء الذاتى للرضاعة الطبيعية ، وممارسة الرضاعة الطبيعية كنتيجة لذلك. وتم تقييم المشاركين في الدراسة من خلال مقابلة باستخدام استبيان معد مسبقاً. **النتائج:** كان متوسط للاكتفاء الذاتى للرضاعة الطبيعية هو ٤٤,٢٢ ، وكان متوسط الدعم الاجتماعى ٢٤,٢٢ ومتوسط مقياس الإجهاد المدرك كان ٢٢,١٥.

- كانت نسبة الأمهات المرضعات حصرياً أعلى عند الأمهات غير العاملات من فئة الرضاعة الجزئية.
- كان لدى الأمهات المرضعات حصرياً نسبة أعلى فى الأمهات ذوات الحالة الاجتماعية والاقتصادية المنخفضة مقارنة بالإرضاع الجزئى.

الخلاصة: تتأثر الرضاعة الطبيعية المتفردة بعمل الأمهات والحالة الاجتماعية لديهن وهى لاتضيف عبئ نفسى على الأمهات لأول مرة ولا تتأثر بالدعم الاجتماعى او شعورها بأنها تكفى تغذية صغيرها.