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Prevalence and Determinants Affecting Breast Feeding among Mothers Attending Meet Mazah Outpatient Clinic

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ABSTRACT

Background: Promotion of exclusive breastfeeding (EBF) has been considered as an efficient strategy for reduction of infant morbimortality for the first 6 months of the infant's life. Several factors have been considered as determinants of breastfeeding (BF) among a rural community.

Objective: To determine the prevalence of BF in the studied group, assess maternal factors affecting breastfeeding and find out determinants of BF among a rural community in the village of Meet Mazah, Dakahlya, Egypt.

Patients and Methods: This study was carried out on a total of 200 breast-feeder mothers to determine the prevalence of breastfeeding in the studied group, assess maternal factors affecting BF and find out determinants of BF among a rural community in the village of Meet Mazah, Dakahlya, Egypt.

Results: The prevalence of breastfeeding was 71%. BF was significantly higher among younger age, lower educational level and lower income mothers. BF mothers were significantly more knowledgeable about the importance of breastfeeding compared to non-BF. BF women were associated with a higher attitude of breastfeeding compared to non-BF ones

Conclusion: Despite mothers' knowledge and attitudes towards EBF were favorable, practice of EBF was not optimal. The current study adds further evidence that knowledge of EBF, mother's age, maternal income and maternal level of education are essential determinants in the context of EBF practice.

Keywords: Prevalence, Breastfeeding, Determinants, Maternal factors.

INTRODUCTION

Breastfeeding (BF) has been considered as an essential component of a newborn's life. BF or lactation offers total nutritional and emotional dependency of the baby on the mother. The powerful emotional bonding between the mother-child dyad is required for effectively prolong BF. Breast milk is suggested as the optimal and exclusive source of early nutrition for whole infants from birth to at least 6 months of age. Maternal milk is essential for development [1, 2].

In spite of the marvelous efforts to raise BF globally, the frequencies remain not optimal in a lot of nations, comprising Egypt [3]. In terms of infants below the age of two months, 79% were recorded to have received only breast milk. On the other hand, the ratio of EBF markedly reduced among older infants by the age 4-5 months. About seven out of ten babies are receiving some form of supplementation, with somewhat more than three in ten given complementary foods [4].

Suboptimum BF practices have adverse events especially in low-and middle-income countries. They have been accompanied by an increase in the possibility of neonatal and under-five mortality, representing more than 0.8 million deaths among children in lower middle-income countries (LMICs) every year [5, 6].

In addition, they have been associated with minimal intelligence and poor health outcomes later in life comprising greater risks of infectious morbimortality, diabetes mellitus and stunting, leading to economic costs of about 302 billion US dollars annually worldwide [7-9].

Such adverse events of suboptimum BF might persist and have main roles in the context of perpetuating health and socioeconomic inequalities across generations. For instance, stunting among women of reproductive age has been accompanied by an increase in the possibility of poor perinatal outcomes in their children, and lower intelligence is known to impact school and labor market performance, which affects the individual's socioeconomic condition and that of his/her offspring [8, 10].

As a result, a health promotion program for EBF throughout antenatal health visits, in association with initiating health policies in maternal hospitals favor BF initiation during the first hour of birth and the introduction of skin-to-skin contact during the first five min of birth are highly suggested [11].

The aim of the present study was to determine the prevalence of BF in the studied group, assess maternal factors affecting breastfeeding and find out determinants of BF among a rural community in the village of Meet Mazah, Dakahlya, Egypt.

SUBJECTS AND METHODS

The present study is a cross-section, (case-nested) study conducted in a rural district, outpatient clinics of Meet Mazah, Dakahlya Governorate, Egypt during the period from start of January till end of October 2019. This center was chosen because it typically represents the Egyptian rural life, available to the researchers and near from their residence.

Inclusion criteria: A mother at the reproductive age, raring a child aging 2 years or less, and accept to participate in the study.

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Exclusion criteria: Mothers having no children or if the child is older than 2 years or she refuse to participate in the study.

Ethical approval:

The protocol was submitted for approval by Institutional Research Board of Faculty of Medicine, Mansoura University. After that communication with local health authorities and managers of the above-mentioned clinic was performed explaining to them the objectives and procedure of the work to allow official permission for performing the study. The researcher interviewed mothers who attended the outpatient clinics for childcare during period of the study, explaining purpose of the work and assuring confidentiality for every mother. Those who accepted participation were comprised in the study. An informed verbal consent was obtained from all participants. The study was conducted according to the Declaration of Helsinki.

METHODS

Study tools:

A previously designed, pretested and validated questionnaire consisted of 4 parts was used by the researcher to inquire about BF: practice, knowledge and attitude among mothers included in the study.

1- **First part of the questionnaire:** asking about socioeconomic data and maternal history as: age of mother, education, out-home work, family income, age at marriage, parity, living children, place of delivery, type of last delivery and birth attendant.

2- **Second part of the questionnaire** inquiring about BF **knowledge** of mothers as following: **a.** benefits: a balanced diet for the baby. Increases immunity and protects against disease. Increases mother and child bond. Cheap and available diet. A method for family planning**. b.** Correct time of initiating breast feeding and importance of feeding colostrum to the baby. **c**. The right time for introducing supplements. **d**. Source of BF knowledge

3- **Third part of the questionnaire** inquiring about **attitude of** the studied mothers towards BF as following: BF Leads to more healthy baby, sufficient in the 1st 6 months, strengthen relation between mother and baby, economic, can be a contraceptive method for her, there is a health difference between breastfed and formula-fed infant, How long she would like to continue BF, the cause of not practicing breast feeding.

4-**Fourth part of the questionnaire** asking about trends of BF **practice** among mothers in the study and it include: Ever practicing BF before, timing for initiating BF after her last labor, frequency of BF given to this baby, length or period of breastfed this baby, giving supplements, baby's age at supplement introduction, type of supplement, cause of giving supplement to baby, method of giving the supplement, have sore or cracked nipple, use BF as a contraceptive method.

Validation of the used questionnaire:

The English version was forward translated into Arabic by two independent researchers and a consensus was made regarding any controversies. The Arabic version was backward translated into English by another two independent researchers unaware about the original version and a consensus was made regarding any controversies. Content validity was assessed by a jury of 10 experts in the field of public health. Content validity index ranged from 0.71-0.93 for different item. The Arabic was pilot tested on 20 mothers not included in the full-scale study. Cronbach's alpha internal consistency was found to be 0.79.

Statistical analysis

Data were collected, reviewed, coded and statistically analysed using the Statistical Package for the Social Sciences (SPSS) program version 16. Qualitative variables were presented as number and percent. Chi square was utilized for testing significance of categorical data, as appropriate. P value ≤ 0.05 was considered statistically significant.

RESULTS

Table (1) shows that 71% of mothers were breast feeders.

Table (1): Prevalence of breast-feeder mothers

Mothers	No. (200)	%
Breast feeders	142	71.0
Non-breast feeders	58	29.0

Table (2) shows that breast feeding was significantly higher among younger age, lower educational level and lower income mothers.

Table (2): Socio-demographic characteristics of the studied mothers (n=200)

Character of mothers		Total 200	Breast feeders (n=142)		Non-breast feeders (n=58)		Chi-square test	
			No	%	No	%	X^2	p
Age	< 25 years	132	102	77.3	30	22.7	7.41	0.006 **
	≥ 25 years	68	40	58.8	28	41.2		
Education	Illiterate	64	52	81.3	12	18.75	10.59	0.014*
	Basic	62	44	71.0	18	29.0		
	Secondary	50	32	64.0	18	36.0		
	University	25	15	60.0	10	40.0		
Working outside home	No	140	100	71.4	40	28.6	0.87	0.23
	yes	60	42	70.0	18	30.0		
Family Income	Not sufficient	109	99	90.8	10	9.2	52.17	0.0001***
	Sufficient	71	29	40.8	42	59.2		
	Save	20	14	70.0	6	30.0		

Significant results are marked by (*).

Table (3) shows that breast feeding was significantly higher in normal and home delivery.

Table (3): Maternal history of the studied mothers

Maternal history		**Total 200**	**Breast feeders (n=142)**		**Non-breast feeders (n=58)**		**Chi-square test**	
			No	**%**	**No**	**%**	**X^2**	**p**
Age at marriage	**< 20 years**	**145**	100	69.0	45	31.0	1.06	0.30
	≥20 years	**55**	42	76.4	13	23.6		
Parity	**Primipara**	**59**	38	64.4	21	35.6	1.76	0.41
	Multipara	**141**	104	73.8	37	26.2		
Living children	**< 3**	**62**	44	71.0	18	.29	0.0	0.99
	≥ 3	**138**	98	71.0	40	29.0		
Place of delivery	**Home**	**100**	88	88.0	12	12.0	35.52	**0.0001*** **
	Hospital	**95**	54	56.8	41	43.2		
Type of last delivery	**Normal**	**151**	121	80.1	30	19.9	4.60	**0.027***
	CS	**49**	31	63.3	18	36.7		
Birth attendant	**TBA**	**10**	5	50.0	5	50.0	2.97	0.22
	Nurse Midwife	**29**	19	65.5	10	23.6		
	Physician	**161**	118	73.3	43	35.6		

Significant results are marked by (*).

Table (4) shows that BF mothers were significantly more knowledgeable about the importance of BF compared to non-BF. And only 9.9% of the BF. and17.2% of non-BF know the correct time of initiating breast feeding. Also 36.6% of the BF. and17.2% of non-BF know that feeding colostrum to the baby is important. The media (TV/radio) was the main source of BF knowledge for BF mothers.

Table (4): BF Knowledge in the studied mothers (n=200)

Type of Knowledge about BF:	Breast feeders no.=142		Non-breast feeders no.=58		Chi-square test	
	correct answer no.	%	correct answer no.	%	X^2	p
BF benefits: Do you know that BF						
.Increases immunity and protect against disease	30	21.1	12	20.7	0.005	0.94
.A balanced diet for the baby	70	49.3	16	27.6	7.91	**0.005****
. Increases mother and child bond	100	70.4	22	37.9	18.27	**0.0001*****
.A method for family planning	24	16.9	22	37.9	10.28	**0.001 ****
. Cheap and available diet	136	95.8	22	37.9	83.05	**0.0001 *****
Correct time of initiating breast feeding:						
1. 1st hour after labor	14	9.9	10	17.2	6.57	**0.037***
2. 1st day after labor	40	28.2	23	39.7		
3. after the 1st day of labor	90	63.4	25	43.1		
Do you know that feeding colostrum to the baby						
1. Important	52	36.6	10	17.2	7.23	**0.007 ****
2. Not important	90	63.4	48	82.8		
The right time for introducing supplements						
1. 4-6 months	60	42.3	9	15.5	31.06	**0.0001****
2. 6 months	44	31.0	9	15.5		
3. After 6 months	38	26.8	40	69.0		
The source of BF knowledge						
1. TV/radio	80	56.3	22	37.9	5.58	**0.018***
2. Healthcare provider	12	8.5	15	25.9	10.69	0.085
3. Doctor	10	7.0	15	25.9	13.33	**0.001*****
4. Family/friends	20	14.1	24	41.4	17.87	**0.0001*****
5. Others	25	17.6	10	17.2	0.004	0.95

++ No who respond yes, Significant results are marked by (*).

Regarding attitude towards BF, there was a significant difference between breast feeders and non- breast feeders. 71% of breast feed women saw that it leads to healthier baby, 50% found it is sufficient in the first 6 months, 81% showed that it is economic and 52% found that there is health difference between breastfed and formula-fed infant with significant difference (Table 5).

Table (5): Attitude towards BF in the studied mothers (n=200)

Do you think BF:		Breast feeders (n=142)		Non-breast feeders (n=58)		Chi-square test	
		No ++	%	No ++	%	X^2	p
Leads to healthier baby?		102	71.8	32	55.2	5.17	**0.023***
Is sufficient in the 1st 6 months?		39	27.5	30	51.7	10.51	**0.001 ****
Strengthen relation between mother and baby?		71	50.0	22	37.9	2.41	0.12
Is economic?		116	81.7	37	63.8	7.33	**0.007 ****
Can be a contraceptive method for you		24	16.9	12	20.7	0.40	0.53
Is there a health difference between breastfed and formula-fed infant?		74	52.1	12	20.7	16.59	**0.0001 *****
How long you like to continue BF	6 months	62	43.7	30	51.7	5.60	0.061
	12 months	44	31.0	22	37.9		
	24 moths	36	25.4	6	10.3		
Why didn't you breastfeed your baby	Insufficient milk			12	21.0		
	Sick baby			7	12.0		
	Sick mother			7	12.0		
	New pregnancy Work out home			14 18	24.0 31.0		

++ Reported are (yes) answers. Significant results are marked by (*).

Table 6 shows BF practices in the studied cases.

Table (6): Trends of BF practice among lactating mothers in the study (n=142)

		No	%
Have you ever practiced BF before?	Yes	104	73.2
Timing for 1st lactation after labour in last BF	1st hour	24	16.9
	1st day	98	69.0
	later	20	14.1
For how long did you breastfed your baby	1 year	90	63.4
	2 years	52	36.6
Frequency of BF	On demand	135	95.1
	Scheduled	7	4.9
Did you give your baby any supplements	Yes	100	70.4
	No	42	29.6
Age of introduction of supplement	< 4 months	42	29.6
	> 4 months	100	70.4
Which supplement	Drinks (e.g., Anis)	45	31.7
	Cow milk	98	69.0
	Yoghurt	22	15.5
	Formula milk	42	29.6
	Others	23	16.2
Why did you give supplement to baby	Milk not enough	80	56.3
	Doctors advise	19	13.4
	Custom	41	28.9
	Older baby	45	31.7
	Delayed growth	63	44.4
	Work return	58	40.9
Method of giving the supplement	Bottle	70	49.3
	Spoon or cup	72	50.7
Do you have sore or cracked nipple		70	49.3
Do you use BF as a contraceptive method		22	15.5

DISCUSSION

One of the most effective plans for decreasing infant morbimortality in resource limited contexts is the promotion of EBF for the first 6 months of the infant's life. Researches have reported the essential roles of EBF in the context of growth, immunity and prevention of infantile illness [12, 13].

This study was conducted on a total of 200 breast-feeder mothers to determine the prevalence of BF in the studied group, assess maternal factors affecting BF and find out determinants of BF among a rural community in the village of Meet Mazah, Dakahlya, Egypt.

The current study demonstrated that the prevalence of BF was 71%. Similar incidence was reported in provincial ratio recorded in the Zimbabwe Survey of 2018 (71%) [14]. Higher incidence was recorded by another study conducted in Cairo (primary healthcare centers El Tagamoa El Khames and El Zawia) who demonstrated that the prevalence of BF was 94.5% from which 66.5% were mixed fed, 28% were undergone EBF, and only 5.5% of the infants weren't breastfed [15]. Lower incidence was recorded by **Mundagowa *et al.*** [16] who have demonstrated that the majority of mothers (89%) had knowledge as regards EBF and 189 (84%) expressed a positive attitude towards the practice, on the contrary, only 81 (36%) practiced EBF.

The differences among studies may be owing to the changes in the definitions of EBF as the national surveys used 24h recording period instead of the birth to six months period. Variations in socio-demographic features and cross-cultural preferences might be other causes of differences in the EBF frequencies.

Concerning socio-demographic characteristics, the current study demonstrated that breast feeding was significantly higher among younger age, lower educational level and lower income mothers.

Farag *et al.* [15] were in the same line as regards the fact that there was a significant correlation between BF and participants monthly income as exclusive and mixed breast feeding mothers had a significant reduction in income compared by non-BF mothers (3000 versus 4000) (P=0.01). However, they were in disagreement with the current study regarding the fact that the age of the studied mothers, education, and occupation did not significantly interfere with BF.

Mundagowa *et al.* [16] have revealed that barriers to practicing EBF were: being a young mother under 25 years of age, having one or two children, living in less than two rooms and having a baby of low birth weight. Following multivariate analysis, only the mother's economic independence was accompanied by practicing EBF. In the same line, a Brazilian research reported that adolescent mothers were less likely to EBF in comparison with older ones [17]. While, **Hawkins *et al.* [18]** have found that maternal work may interfere with BF initiation and maintenance. Also regarding working, **Chekol *et al.* [19]** and **Taddele *et al.* [20]** were in disagreement with the present study who have demonstrated that EBF rates were lower among employed mothers in comparison with unemployed ones.

Concerning BF knowledge, the current study demonstrated that BF mothers were significantly more knowledgeable about the importance of BF compared to non-BF and only 9.9% of the BF and 17.2% of non-BF knew the correct time of initiating breast feeding. Also 36.6% of the BF and17.2% of non-BF knew that feeding colostrum to the baby is important. The media (TV/radio) was the main source of BF knowledge for BF mothers. In accordance, **Farag *et al.* [15]** have displayed that there was a significant correlation among BF pattern and mothers knowledge as regards the values of breast milk to infants. Furthermore, **Mogre *et al.* [13]** have reported that; greater knowledge of EBF was accompanied by the likelihood of EBF (OR 5.9; 95% CI 2.6, 13.3; p<0.001).

Black *et al.* [21] and **Victora *et al.* [8]** clarified that the infant's digestive system isn't well matured, and giving other foods could exposes infants to infections. Such outcomes enhanced this study that the different benefits associated with BF were mainly reliant on the mother's experiences.

Regarding attitude of BF, the current study demonstrated that BF women were associated with a higher attitude of BF compared to non-BF ones. Likewise, **Mundagowa *et al.* [16]** have found that on an attitude scale, nearly all the studied participants (99%) scored high as regards EBF being more suitable and valuable to the baby in comparison with formula/mixed feeding. About 90% (of the women either agreed or strongly agreed that the age of the mother doesn't affect her capability for practicing EBF. In contrast, **Mogre *et al.* [13]** have demonstrate that; in spite of the generally positive attitude towards EBF, 42% of the mothers didn't EBF their babies. Such mothers didn't practice EBF as they misunderstood particular signs of the child to mean wanting to eat food or drink water, regarded breast milk to be improper to meet the nutritional requirements of the children and misunderstood healthcare professionals' EBF advice.

CONCLUSION

The current study demonstrated that despite, mothers' knowledge and attitudes towards EBF were favorable, practice of EBF was suboptimal. The current study adds further evidence that knowledge of EBF, mother's age, maternal income and maternal level of education are important determinants in the context of EBF practice.

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