

The Effect of Maternal Employment on Breast Feeding Practice among Egyptian Children

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Abstract: Breast feeding is a fundamental right of mothers and infants, but it has also known that everywhere women entering the workforce in greater numbers and the decision to return to work may be the result of women's lifestyle, financial circumstances, or professional preparation. Maternal employment has been reported as a significant problem that affects breast feeding and influence early weaning, despite many mother's intention to continue breastfeeding after returning to work. The aim of this study was to assess the effect of maternal employment on breast feeding practice, and to find a solution of this problem. The study was conducted on 200 working mother and their infants (111 males and 89 females) compared to 200 none working mothers and their infants (91 males and 109 females). Infants of both groups aged from 6-24 months. All of the studied mothers and their infants were subjected to an interview questionnaire. The results revealed that, breastfeeding on cue was practiced in (8.0%) of working mothers compared to (93.0%) in non working groups ($p < 0.000$). As regard exclusive breast feeding, (11.0%) of working mothers continued exclusive breast feeding to six month compared to (20.5%) of non working group ($p < 0.000$). Most of working mothers start complementary feeding earlier than non working group ($p < 0.00$) No significant statistical difference between both groups as regard onset of suckling and anthropometric measurements. Breast feeding rates in the studied groups were below the recommended level in both working and non working groups. Conclusion: maternal employment may affect the practice of breastfeeding especially exclusive breast feeding, the pattern of breastfeeding, and age of weaning. But it has no significant effect on the growth of their infants. We Recommended: A six months paid maternal leave for working mother, Milk expression and proper storage and the presence of nurseries in mother's workplace can be a solution for working mothers.

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1. Introduction

Breast milk is the most perfect food for the baby. It contains easily digestible proteins, many factors that support new baby's immature immune system, and other factors that aid in digestion. It is also low in cost and requires no preparation. Breast fed babies are also less likely to have colic, upper respiratory tract infections, ear infections, constipation, asthma or allergies (*American Academy of Pediatrics, 2009 and Kleigman, et al., 2008*). Today, working mothers face an awful dilemma; their doctors tell them to nurse their babies exclusively on breast milk for six months. However, the government offers only three months paid maternity leave for a working mom. The dilemma then is – should she get back to work or should she let go of her job? Each woman deals with this dilemma according to their individual circumstances (*Shilpa shet, 2007*). The questions are what are the effects of maternal employment on breast feeding duration and pattern? And is there a relation between the growth of the infants and maternal employment?

Aim of the Study

The aim of this work was to assess the effect of maternal employment on breast feeding practice, and

to find a solution of this problem.

2. Subjects and Method

This study was carried out at AL-Zahraa university hospital, as a comparative cross sectional study, after an informed written consent obtained from all mothers before getting them involved in the study. The study included 400 mothers and their infants aged between 6 – 24 months. They were divided into two groups:

Group I:

This group included 200 working mothers and their infants.

Group II:

Included 200 non working mothers and their infants.

All infants were healthy, full term, single, with birth weight of at least 2500 grams and not admitted to neonatal intensive care unit.

Exclusion criteria:

- Mothers giving artificial feeding to their infants from the start.
- Infants with congenital anomalies that interfere with breastfeeding.

Methods of the study

All of the studied mothers and infants were subjected to an interview questionnaire including

1- Personal history

Name, age of the mother and her infant, sex, age and order of the infant, number of children, address, educational level of the mother and occupation of the mother.

2-Dietary history

Onset of breastfeeding after delivery, practice of exclusive breastfeeding and its duration, duration and

frequency of breastfeeding per day and onset of weaning.

3- Employment status

Duration of maternal leave, expression of breast milk to feed their infants during working hours, type of expression, storage of expressed breast milk and any change in the amount of breast milk after returning back to work.

4- Physical examination including assessment of anthropometric measurements**3. Results.****Table (1): Demographic characteristics of mothers of the two studied groups**

		Working mothers (n=200)	Nonworking mothers (n=200)	p-value
Age of mothers (years)	Mean ± SD	29.00± 2.9	27.6 ± 4.6	0.00*
	Urban	112 (56.0%)	80 (40.0%)	
Residence	Rural	88 (44.0%)	120 (60.0%)	.001*
	1 child	99 (49.5%)	83 (41.5%)	
Number of children	2 children	65 (32.5%)	54 (27.0%)	0.007*
	≥ 3 children	36(18.0)	63 (31.5%)	

*Statistically significant difference (p-value < 0.05)

Working mothers have higher age and less number of children than non working.

Table (2) Maternal employment characteristics among working mothers

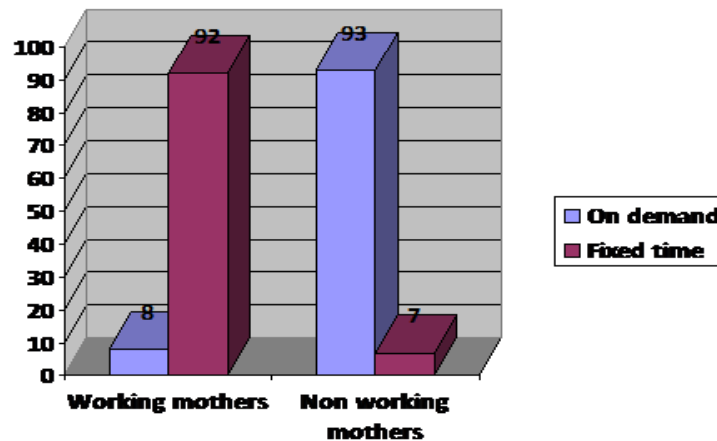
		No. 200	Percent %
Type of work	Governmental	163	81.5%
	private	37	18.5%
Duration of work (hours)	Mean±SD	5.47±2.2	
Maternity leave(month)	< 3 months	37	18.5%
	3-6 months	148	74.0%
	6-12 months	15	7.5%
Any change of infants' behavior after returning to work	More crying	67	33.5%
	Poor sleep	18	9.0%
	Neglect bowel habits	3	1.5%
	No change	112	56.0%
Any change of milk amount after returning to work	Yes	62.	31.0%
	No change	138	69.0%
Expression of milk to feed the infant while the mother at work	Yes	45	22.5%
	No	155	77.5%
Method of expression	By hands	13	28.9%
	By Manual pump	32	71.1%
	By electric pump	0	0.0%
Storage of expressed breast milk	Yes (In refrigerator)	18	40.0%
	Yes(In freezer)	0	0.0%
	No storage	27	60.0%

Most of the working mothers (81.5%) working in governmental sectors while, (18.5%) working in private sectors. The mean of work hours per day was (5.4) hours). (18.5%) of working mothers had maternity leave for less than 3 months, (74.0%) 3-6 months and (7.5%) more than 6 months. (22.5%) of working mothers practice milk expression technique. (31.0%) of the mothers reported occurrence of changes in breast milk volume after returning to work, and (44.0%) experienced changes in their infants behavior after returning to work.

Table (3) Breast feeding practice among both studied groups.

		Working mothers (n=200)	Nonworking mothers (n=200)	p-value
Onset of Breast feeding after delivery (hours)	Mean ±SD	1.3±.56	1.4±.67	0.5
Duration of each feed by minutes	Mean ±SD	11.8 ±2.99	14.0±3.36	0.000*
Number of fed per day	Mean ±SD	7.3±1.3	8.4± 1.6	0.001*
Pattern of Breast feeding	On Cue	16 (8.0%)	186 (93.0%)	0.000*
	Fixed times	184 (92.0%)	14 (7.0%)	
Continued breast feeding for one year	Yes	82 (41.0%)	90 (45.0%)	
	No	118 (59.0%)	110 (55.0%)	

- * Statistically significant difference (p-value < 0.05)
- No statistically significant difference between two groups as regard the onset of suckling. Most of non working mothers 93% breastfed their infants on cue, compared to only 8% of working mothers while the remaining percentage breast fed according to fixed time (schedule) as shown in **fig (1)**.



- **Fig 1. Pattern of breastfeeding among both study groups.**

Table (4) Breastfeeding characteristics among both studied groups.

		Working mothers (n=200)	Nonworking (n=200)	p-value
Exclusive breast feeding (6 months)	N (%)	22 (11.0%)	39 (20.5%)	0.000
Onset of complementary feeding (months)	Mean ± SD	4.6 ±.97	6.1±1.2	0.000
Causes of adding artificial feeding with breast feeding	Inadequate breast milk	0 (0%)	101 (50.5%)	0.000
	Work related factors	178 (89%)	0 (0%)	0.00
	Doctor advice	22 (11%)	99 (49.5%)	

* Statistically significant difference (p-value ≤ 0.05)

The percentage of exclusive breastfeeding to the six months was significantly higher among non working mothers (20.5%) versus (11.0%) of working as shown in **fig (2)**. The mean age of onset of complementary feeding was earlier in working group than non working group. (p<0.05).

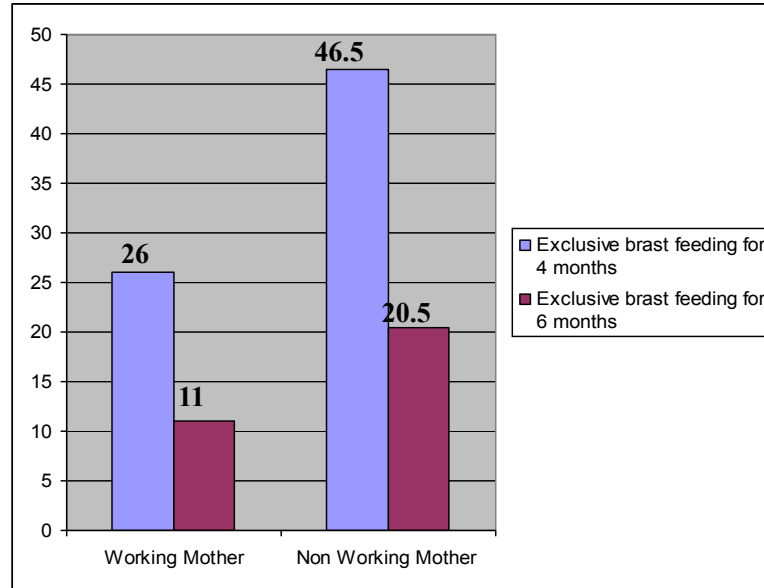


Figure 2. The percentage of exclusive breastfeeding

Table (5): Anthropometric measurements of infants of the studied groups

	Infant of working Mothers (n=200)	Infant of nonworking mothers (n=200)	p-value
Weight (kg)	9.87± 2.6	9.99± 2.5	0.6
Length (cm)	76.81± 10.9	76.78± 10.9	0.9
Body Mass Index	17.65± 2.5	18.23± 2.6	0.2

* Statistically significant difference (p-value ≤ 0.05)

There was no statistically significant difference between the two groups regarding infant's weight, length and body mass index.

Table (6): Infant morbidity among both groups

		Infant of working mothers (n=200)	Infant of nonworking mothers (n=200)	p-value
Recurrent respiratory tract infection or gastroenteritis	Yes	22 (11.0%)	19 (9.5%)	0.4
	No	178 (89%)	181 (90.5%)	
Pattern of growth	Normal	199 (99.5%)	195 (97.5%)	0.2
	Moderate	1 (0.5%)	3 (1.5%)	
	SLOW	0 (0.%)	2 (1.0%)	

* Statistically significant difference (p-value ≤ 0.05)

There was no statistically significant difference between both groups regarding recurrent respiratory tract infection or gastroenteritis and pattern of growth.

Table (7) Exclusive breast feeding rate by months.

Exclusive breast feeding by months	2	Number	Working	Nonworking
			198	200
		Percent %	99 %	100%
	3	Number	101	196
		%	50.5%	98%
	4	Number	52	93
		%	26.0%	46.5%
	5	Number	22	64
		%	11.0%	32.0%
	6	Number	23	39
		%	11.5%	20.5%

(50.5%) of working mothers continue EBF for 3 months compared to (98%) of non working group, (11.0%) of working mothers continue (EBF) for 6th months compared to (20.5%) of non working group.

Table (8): Complementary feeding rate

Complementary feeding rate by months		Working		Nonworking	
		Number	Percent %	Number	Percent %
3	Number	2	1.0%	0	0%
	Percent %				
4	Number	99	49.5%	4	2.0%
	%				
5	Number	148	74%	107	53%
	%				
6	Number	177	88.5%	136	68%
	%				
7	Number	178	89%	161	79.5%
	%				

Complementary feeding started in the 3rd month in (0%) of non working mothers compared to (1.0%) of working group. In the 6th month in (68%) of non working group compared to (88.5%) of working group.

4. Discussion

Human milk is a complex fluid that provides both nutrients and non nutrients; bioactive factors that facilitate the adaptive functional changes required in the first weeks of life for the neonate (*Marie et al., 2008*.) Low rates and early cessation of breastfeeding have important adverse effects on health, social and economic implications for women, children, the community, the environment, and results in greater expenditure on national health care provision (*Cattaneo et al., 2005*) (*EDHS*) (2008). The number of women who breastfeed their infants after returning to work is significantly low. Many women stop breastfeeding soon after they return to work because of lack of preparation and support. Employment was reported one of the principal factors affecting breastfeeding (*Wyatt, 2002*). This study intended to profile the breastfeeding practices during the period of 6th month to the age of 2 years of life in two groups of working and non working mothers. The current study showed a significant difference in feeding practice between the studied groups. (93%) of non working mothers breastfeed their infants on cue, compared to only (8%) of working mothers. This can be explained by work condition that interferes with cue feeding. These findings are in agreement with the finding of the study of *Galal, (1990)*, who found that on cue feeding was less practiced in working group than nonworking group. *Risk, et al., (2003)*, found that (67.7%) of non working and (40%) of working group feed their infants on cue. *Abd- El-Wahab and Zekry, (2009)* found that (94.5%) of non working mothers and (45.9%) of working mothers feed their infants on cue.

As regard the onset of suckling, no statistically significant difference between the two groups ($p > 0.05$). These finding in agreement with the study of *Abd- El-Wahab, and Zekry, (2009)* but in contrast with the results of *Risk, et al., (2003)*. who found that (11.4%) of working group and (16.9%) of non working group, initiate breastfeeding within the 1st hour whereas (37.1%) of working and (30.8%) of

non working group initiate breast feeding from (2-6) hours after delivery. There was statistically significant difference between the studied groups regarding the number of feed per day and duration of each feed ($p < 0.05$) the mean number was (8.4) feeds in non working mothers compared to (7.3) in working mothers and the mean duration of each feed was (14) minutes in non working mothers and (11.8) minutes in working mothers.

In the present study there was statistically significant difference as regard exclusive breast feeding duration. The results showed that: The percentage of exclusive breastfeeding to six months was significantly higher among non working mothers (32.0%) versus (11.0%) in working mothers ($p < 0.05$). The mean age of onset of complementary feeding also show statistically significant difference ($p < 0.05$) the mean duration was (6.1) months in non working mothers versus (4.5) months in working mothers.

El-Sayed and Waheeb (2003) reviewed the Egyptian studies on breastfeeding and maternal employment. They have found that working mothers tend to breast feed exclusively for shorter duration compared to non working mothers, and to introduce breast milk substitutes at an earlier age, however most of the studies which reported these findings showed no statistically significant difference. These findings can be explained as, working mothers are obligate to start weaning after they return to work at the 4th month, only mothers who can express breast milk successfully, or extend their child care leave can continue exclusive breast feeding up to 6th months. Other explanation is decreased mothers awareness about the importance of exclusive breast feeding until the six month of age. *WHO & UNICEF (2009)* recommend that all mothers should breastfeed their babies exclusively up to the 6th month of age.

When we investigate the reasons for introducing complementary food, before the age of 6 months the study results found that (89%) of working mothers start weaning after returning to

work while (50.5%) of non working group start weaning due to insufficient breast milk. This results were in agreement with *Risk et al., (2003)* found that (62.9%) of working group introduce food due to returning to work, and (37.1%) of them because of insufficient milk, while (33.8%) of non working mothers start early weaning to make the baby used to eat early. *Moffat, (2002)* found that the mothers start complementary feeding if they felt that they didn't have enough breast milk for their infants.

As regard the health problems of the infants of both groups, the study revealed that (11.0%) of infants of working mothers compared to (9.5%) of infants of non working mothers had recurrent infections, with no statistically significant difference ($p > 0.05$). This results in agreement with the results of *Risk, et al., (2003)*, who found that: no statistically significantly difference were detected between working and non working groups either for the occurrence of the diseases or for the total episodes of illness of their infant.

When we assessed the anthropometric measurements of the infants of both groups we revealed that, there were no statistically significant differences between the two groups regarding infant's weight, length and body mass index ($p > 0.05$).

In conclusion, maternal employment may affect the practice of breastfeeding especially exclusive breast feeding, the pattern of breastfeeding, and age of weaning but, it has no significant effects on the growth of their infants.

We Recommended: A six months paid maternal leave for working mother, Milk expression and proper storage and the presence of nurseries in mother's workplace can be a solution for working mothers.

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