Moain El-Kariri*¶ and Basil Kanoa#
*Ministry of Health at Gaza, department of health education and promotion department, # Al-Azhar University, college of pharmacy; Gaza-Palestine.

Infant Feeding in Gaza Strip: Mother Knowledge, Attitudes and Practices.

Abstract:

A clinic-based study conducted in Gaza strip, surveyed 268 mothers of infants aged 2-24 months old in five governmental clinics for breast-feeding habits of their children. The children were selected during the day of receiving vaccination or during visiting for other reasons such as when visiting clinics for follow-up appointments or for receiving tonics.
Information was collected with regards to the feeding behavior of the youngest child. The data collection instrument was a self-designed semi-structural questionnaire. *Results showed that the frequency of breast-feeding at some point of time was more than 92%, exclusive breast-feeding reached 38%.* Eighty five percent (85%) of the mothers had been informed about the importance of breast-feeding. *Conducive environment for breast-feeding at home was demonstrated through the support of surrounding people especially the grandmothers. Health system is still insufficiently supportive of breast-feeding practices since the prevalence of mothers had received support and advice from physicians and nurses post labor was 43%.* The main source of information about breast-feeding was through primary health care practitioners and health education. Media represented 22% of the average of information sources. The results also showed that 46% of infants were breast-fed for less than one year.

The study also found that 13% of the mothers were not interested in feeding colostrums. More than 26% had introduced solid foods before the age of 4 months. *Mother's attitudes regarding the early introduction of infant formula reached almost 70% of the surveyed mothers. The reasons mentioned were that this might calm down the infants (38%) and reduce neonatal jaundice (32.5%).* The survey showed that there was a tendency to introduce solid foods both early on and late and this was significantly related to the level of awareness and duration of breast-feeding.

Keywords: Breast-feeding, socioeconomic status (SES), knowledge attitudes practice (KAP).

Introduction:

Breast-feeding is critical for sustaining new born and infant health and well-being. Infants who are properly breast-fed grow better and experience less sickness and fewer deaths than other infants who are not breast-fed. Breast-feeding is reported to save six million infant lives each year by preventing diarrhea and acute respiratory infection (1). The prevalence of breast-feeding differs from one country to another and from one society to another, this of course is due to cultural and religious believes.
Exclusive breast-feeding rates were low in the United States with only 7.9% at 6-months (2). A study titled "Breast-feeding in Europe—rationale and prevalence, challenges and possibilities for promotion" recorded vast differences in the prevalence of breast-feeding duration between EU

countries and possibly within countries (3). The prevalence of breast feeding was higher among Arab communities where 46% of the infants are breast-fed for 4-6 month in Emirates (4). *In contrast a USA study showed that only 20% of the low income rural mothers in southeastern Kentucky practiced breast-feeding for babies of the same age* (5). In Saudi Arabia, 48.3% of lactating mothers cited insufficient milk as a reasons for introducing the bottle feeding by 3-month (6). *Breast-feeding mothers need additional support to continue breast-feeding beyond the first month. Mothers and grandmothers need education to discourage the practice of early introduction of inappropriate solid foods, including the practice of thickening bottles of formula with cereal. Nutrition teaching should be provided to mothers and grandmothers including how to select high nutrients, low fat weaning food, and limiting infant intake of high calorie intake(5).*
The recorded (at any time) prevalence of breast-feeding in the Palestinian community was 95% but exclusive breast-feeding reached 13% at 3 month. *Despite of the high prevalence of breast-feeding practices in Gaza strip it seems that inappropriate feeding practices with regards to early and late introduction of solid food is still high. The continuity of breast-feeding practices after one year decreased to less than 50%* (8).
The aim of this study was to test the knowledge, attitudes and practices of breast-feeding among mothers in Gaza strip.

The study further seeks to evaluate the current health *system with regards to breas*t-feeding practices in Gaza. The recommendation should enable the health providers to build better awareness programs and decision makers to modify current health care system to improve support of breast-feeding.

Methods:

This is a cross –sectional clinic- based study; targeting 268 mothers who had been present on the day of the study at the primary health center (PHC). *The sample size was determined according to many criteria especially the rarity of variables under study and the population size, and since this is a KAP study, homogeneity of the variables is expected and so a high sample size is not a must. The mothers selected for interview were ones visiting the PHC to vaccinate their healthy non sick children. The interviewers asked the mothers to answer the questions of the survey immediately after vaccinating their children; all selected mothers were chosen on convenient bases. The study covered five governmental clinics selected purposively through three* localities of the Gaza strip including North, Gaza city and South.
The data collection instrument was a semi – structured questionnaire composed of 43 questions (in Arabic) "delivered directly through face to face interview" the questionnaire included the following determinants:

- Personal information ", demographic data"
- Level of mother knowledge.
- The attitude of the mothers regarding breast-feeding.
- Behavioral aspects.
- *Level of information and support provided by the health care providers as part of provision of health care.*

The questionnaire was revised by a nutritionist and pediatricians interested in Breast-feeding for evaluating its validity. A pilot study was performed prior to the real study

and all the modifications and changes necessary were taken into our consideration.

Mothers were asked to answer questions through the support of 10 trained health educators who played the role of interviewers, after obtaining oral approval and completing clarifications about the purpose of the study. *Health educators were staff of the MOH and were neutral in terms of their administrative loyalty, but at the same time they as also had strong commitments towards the support of breast-feeding. Therefore, the level of interviewer bias was very limited.* Data were filtered and introduced to computer database and then analyzed by SPSS version 13.

Results

Participant characteristics:

Among the 268 mothers, the average the age of the participating mothers was 28 years, 3.7% of the mothers was less than 19 years old (Table 1). Almost 57% of the participating mothers had a family income of less than US$ 400 with a median income of US$280. *Sex of the children of the mothers under study was found to be evenly distributed; almost fifty percent were males and fifty percent females*. About 56% of the mothers in the study were from Gaza City, 26.9 % and 17.5% from North and South respectively.

Table (1): Distribution of mother's age in the study area

	Area			**Total**	
Age	North	Gaza city	South	N0	%
Less than 19 years	3 (%4.2)	7 (4.7%	(0).0%	10	3.7
19-25 years	19 (26.4%)	45 (30.2)	5 (10.8)	69	25.7
26-30	29 (40.3)	57 (38.3)	15 (31.9)	101	37.7
More than 30 years old	21 (29.2)	40 (26.8)	27 (57.4)	88	33
Mothers education for more than 13 years	**33**	**83**	**19**	**135**	**50.9**

Children characteristics:

Among the 268 surveyed children, the average age was 12.5 months; only 10.7% of the children were less than 6 months old Table(2).

Table (2): Distribution of the children's age

Age	*No.*	*%*
Less than 6 months	*29*	*(10.7)*
6-12 months	*78*	*(26.8)*
More than one year	*161*	*(59.4)*
Total	***268***	***(100)***

Type of feeding by socioeconomic and maternal characteristics:

Out of the 268 interviewed mothers, 169 lactating mothers (63.4%) were fully breast-feeders, 29.1% were mixed breast feeders and 7.5% practiced infant formula milk. This data was derived during the day of the study.

Of the full breast-feeding group 33 lactating mothers (32%) did so for 6-12 months and 70 mothers (68%) of continued breastfeeding for more than one year. About 39% of all mothers in this study mentioned that artificial feeding had at least one advantage: it made children more satisfied. Almost all the population recorded at least one benefit for breast-feeding.

Knowledge Attitudes and Practices of Breast Feeding:

Table 3: Feeding knowledge attitudes and practice for breast feeding

Item	**No.**	**%**
Mothers informed about the importance of breast feeding.	229	85.4
Mothers know more than three advantages of breast feeding	184	68.7
Mothers that consider crying as a major sign of hunger.	227	84.7
Mothers who considered the following as a very important means for milk production: Drinking more water Eating special food	 90 104	 33.6 38.8
Source of infant feeding information: Health educators and HCP in PHC Media Retail pharmacy	 139 59 10	 52 22 3.7
Mothers that received support and advice from physician and nurses	*116*	*43.3*
Mothers that delivered (gave birth) in the hospital	224	83.6
Mothers that started breast-feeding during one hour post delivery	210	78.4
Mothers that initiated breast-feeding at some point post delivery	248	92.5
Exclusive breast-feeding (less than 6 month).	103	38.4
Feeling of satisfaction with breast-feeding.	191	71.3
Mothers who gave pacifier	57	21.3
Mothers not interesting in feeding colostrums	34	12.7
Mothers that scheduled their feeding	59	22
Mothers receiving breast-feeding support and advice at home especially from the grandmothers	*111*	41.4
Mothers that think hospital staff are not supportive for breast-feeding	84	31.5
Mothers that did not encounter any problems during breast-feeding	187	70
Mothers that introduced solid food before 4-month	70	26
Mothers who thought that early introduction of infant milk might help in reducing jaundice.	87	32.5
Sickness of the mothers and infants refusal of the breast as the reason why mothers introduced formula milk among non breastfed	*14*	*63.6*
Mother practicing a rooming in-policy (in the same) room	235	87.7
Mothers who received medical sample from the medical representatives during hospital stay	34	12.7
Mothers who continued breast feeding for more than one year	145	54
Babies who do not take iron supplement.	80	29.9

Table (4) Relation of family income& mothers working with type of breast- feeding

Family income US$	*Type of feeding*				P-value
	Breast feeding	*Artificial*	*Mixed*	*Total*	
Less than 200	*49*	*7*	*15*	*71*	*0.25*
201-400	*54*	*5*	*22*	*81*	
401-700	*41*	*3*	*22*	*66*	
701 and more	***25***	***5***	***20***	***50***	
Total	***169***	***20***	***79***	***268***	
Mothers working					
Yes	36(21.3%)	6 (30%)	35 (44.3%)	***77***	< 0.001
No	133 (78.7%)	14 (70%)	44 (55.7%)	***191***	
Total	***169***	***20***	***79***	***268***	

Discussion

The culture of the Gaza strip is very supportive to breast-feeding since people especially the aged grandmothers provide a culture that encourages breast-feeding.

More than 111 mothers (41%) mentioned that they received support and advice from their families especially grandmothers. These findings are similar to those from a study done in Bristol, UK where grandmothers seemed to influence and promote the practice of breast- feeding (9) This cross-sectional study demonstrated an initiation rate of breast feeding of almost 92.5% of all the mothers at some point. These rates are higher than those reported in USA and Jordan for the same age range (2, 10) respectively.

Breast-feeding behaviors were not far from optimal since 78.4% of mothers sampled initiated breast-feeding during the first hour after birth. *In two separate surveys both in Urban populations of Western Nepal and Lebanon the rate of Breast feeding initiation during the first hour were 72.7% and 55.9 respectively(11,12)*

In comparison to *other similar studies,* 62% did not exclusively breast-feed their babies. *Findings among Saudi mothers showed a low prevalence of exclusive breast-feeding (27.3%). In Lebanon the prevalence was 52% at the 1 month* (13, 12).

In the Gaza Strip this study revealed that less educated mothers' were *not more likely* to breast-feed their babies. This is in contrast to results from Jordan where less educated women were more likely to breastfeed than women of higher education level (10). The lack of relationship between education and breast-feeding behavior in Gaza strip were mostly due to positive attitudes cultural values rather than educational influences.

The present study showed that 12.7% of the lactating mothers refused to give colostrums to their babies. In comparison, a Saudi study by AL-Jaseeir *et al* in 2006 and a study in Central Karnataka in 1996 by Banapurmath *et al* showed that mothers who refused to give colostrums were 8% and 29% respectively (14,6). We consider such practices to have been highly affected by the level of misconceptions

prevailing among the grandmothers of the lactating mothers towards using colostrums.

The findings of this study showed that 22% of the lactating mothers schedule the feeding times of their babies. A similar study in India showed that 36.6% of lactating mothers fed their babies on demand (1). The present study showed a strong association between the level of mother's education and awareness and the feeding on demand in Gaza.

Twenty six percent of mothers introduced solid foods before the age of 4 months, the majority of them did so at the age of three month.

Out of those giving artificial formula the main reason behind this practice was child refusal and/or mother illness (63.6% of total). Thirty seven percent of the study population had positive attitudes towards artificial milk indicating a need to change negative attitudes to breast-feeding. This somewhat high percent of positive attitude may be linked to the strong influence of the anti breast-feeding marketing campaigns by the medical representatives. No similar studies matched this data since a study in Jordan showed that 33% of the study population introduced infants to formula milk as a result of lack or insufficient breast milk (10).

Working of the mothers still plays a role in generating negativity towards exclusive breast-feeding practices in Gaza.

This finding is consistent with other studies that proposes mother working outside the home as one of the greatest hindrances to exclusive breast feeding.

Perez-Escamilla and colleagues found that mothers in Brazil, Honduras, and Mexico who were not employed outside their homes were significantly more likely to exclusively breast-feed their babies (15, 16). In Thailand, not working outside homes was the single most important predictor of exclusive breast-feeding by mothers (17).

Unlike other studies, however, our findings do not provide convincing evidence that social class, measured by family income, maternal education and mothers' age significantly affect the prevalence of exclusive breast-feeding. Studies by Nath in 1997 and Perez-Escamilla in 1995 documented lower rates of exclusive breast-feeding among women of higher income and social class (18, 15). The lack of relationship between education, socio-economic status and the exclusive breast-feeding behavior in Gaza strip are mostly due to positive attitudes and cultural values towards breast-feeding rather than other influences. *Similar findings were observed by the study of Hossain* and colleagues *"Breastfeeding in Egypt", where maternal education seemed to play a non significant role in breast-feeding practices. Meanwhile a significant relation was observed among mothers of high socioeconomic status since they tended to terminate breast- feeding earlier (19).*

Giugliani and colleagues in 1994 reported that young American mothers were less likely to exclusively breast-feed, a finding substantiated in a three country study (20). A separate study in Mexico by Perez Escamilla in 1993 pointed to social support and mothers' awareness as major determinants of exclusive breast-feeding (16).

The present study examined few common risk factors underlying failure of breast-feeding practices such as attitudes towards artificial milk, lack of hospital conducive environment and violation of breast feeding through the non compliance of the code of breast

milk substitute. The code aims to contribute to the provision of safe and adequate nutrition for infants, through protection and promotion of breast-feeding, and through ensuring the proper use of breast milk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution (21).

Consequently, efforts to improve breast-feeding need to include a variety of strategies. One of the major strategic components is the support of the early initiation of breast-feeding in the first hour since this was strongly associated with the duration and continuity of breast-feeding after the first year (22).

Efforts to improve early initiation and exclusive breast-feeding should be targeted first towards staff in public and private hospitals to support and strengthen the baby-friendly hospital initiative. This was observed during our study since 43.3% of the mothers mentioned that they received breast-feeding support and advice from their physician and nurses immediately after delivery. However, this figure remains belo the satisfactory level. The reason behind this might be heavy physician workload since more than 1000 mothers give birth monthly in large hospitals in the Gaza Strip such As Shifa Hospital (23). Other factors might be lack of conducive and supporting system.

Conclusions and Recommendations

We conclude that many of the mothers have a good knowledge and positive attitudes towards breast feeding. However, appropriate practice of breast feeding is still influenced by factors such as the health care system and the social support. Despite that prevalence of practicing breast-feeding at birth reaches a high of 92.5%, only 38% progress to exclusive breast- feed till the age of 6 month. Among the socio-cultural factors, only mother's working outside home was significantly correlated with the type of feeding. Effort is needed to monitor, evaluate and strengthen the effectiveness of health education programmers. Early identification for any breast milk code violation should be stressed. National strategic components for the support of breast-feeding in terms of early initiation during the first hour, implementing the baby-friendly hospital initiatives, and implementing of the international code of marketing of breast milk substitute are strongly recommended.

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¶Correspondence: Dr. Moain El-Kariri, Director of Health Education and Promotion Department, Ministry of Health at Gaza, Gaza-Palestine. E-mail: moain_kariri@yahoo.com .