

Breast Feeding, Complementary Feeding, and Weaning Practices, among Children up to 2 Years Old in Gaza Strip.

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ABSTRACT:

Objective: The experience of the authors working with mothers in Gaza community in the of child and infant nutrition and their observation of incorrect weaning behavior, necessitated assessment of weaning practices for future intervention. The objectives of this study is to describe infant feeding attitudes and practices during breastfeeding (BF), complementary feeding (CF) and weaning (WP) for a sample of nursing mothers in the Gaza strip (GS) during the year 2009.

Methods: The study is of cross-sectional design. The study sample consisted of 269 mothers of infants aged less than two years old. Data were collected through face to face interviews of the mothers. The questionnaire contained questions related to infant feeding and weaning attitudes and practices of mothers towards their infants. Chi-square test was used to analyze data and P value less than 0.05 was considered significant. Ethical approval was obtained verbally from each participant.

Results: In the present study 55.8% of infants were boys and 44.2% girls (Minimum age 1 month and maximum age 24 month). The study revealed that 48.8% of the mothers weaned their children either suddenly or gradually. Complementary feeding was added between 3-5 months to 54.9% of the children that started to receive complementary feeding (post breast feeding). The key limitation of this study was that the research team collected limited samples from all the five regions of Gaza Strip due to limited human and non-human resources.

Conclusion

Satiety from complementary feeding was the prime cause for weaning followed by pregnancy of the nursing mother and then by breast refusal by the baby.

The study showed lack of adequate knowledge by nursing mothers towards the procedure, practice and time of weaning and the importance of breast feeding. We recommend use of health education to assess and support the proper feeding practices amongst nursing mothers.

Key words: exclusive breast feeding, complementary feeding, weaning attitudes and practices, the Gaza strip.

INTRODUCTION:

Breast-feeding is one of the oldest practices, recommended in the Holy Quran. However, there has been increasing concern in recent years

about the changing pattern of breast-feeding, particularly in societies in rapid transition. Data from 86 countries revealed that there are very large differences in breast-feeding practices between countries, between population

groups within counties and within different groups over a period of time (1). Breast feeding is the best way of providing the ideal food for the healthy growth and development of infants and its advantages range from physiological to psychological for both mother and infants (2). Breast feeding lowers infant mortality, especially that caused by diarrhea and acute respiratory infections (3).

According to WHO global infant feeding recommendations (4) complementary feeding (solid food) should start at six month and breast feeding should continue to two years of age. Early introduction of complementary feeding was associated with more wheezy and respiratory illness (3). There has been much controversy over the optimum time at which to introduce food, other than breast milk into an infant's diet. Introducing solid food too early may undesirably increase renal solute load, increase the risk of infection, compromise the maintenance of lactation amenorrhea, and possibly expose the infant to dietary antigen. On the other hand, leaving complementary feeding too late may impair growth because the nutrients density of liquid diet is low (5).

Weaning is the term usually used to describe the process of cessation of breast feeding after a period of successful breast feeding. This usually involves the addition of food to the infant's diet and/or the replacement of breast milk in the infant diet with another type of milk (formula or whole milk). Maternal physiology, infant nutritional needs, infant development especially the development of biting and chewing, and cultural issues all play a role in the timing of weaning (5). Weaning is also a time of emotional transition for the mother. This can include feelings of accomplishment, sadness that breast feeding is ending, and the sadness and

happiness that the infant is no longer a baby and is becoming a child.

There is no typical age at which human infants are weaned, for this varies from country to country and among the social classes of a nation. Most commonly, weaning is a gradual process, with a gradual increase in the proportion of solid food supplied to the infant together with breast milk (6,7). In Palestine recent study indicated that more children (62%) received complementary feeding early and weaned at age less than two years of age (13). This can be explained by that higher percentage of mothers in Gaza Strip is not convinced with exclusive breast feeding in the first six months of life. Such mothers used mixed feeding and started complementary feeding before the age of six months. Attitudes of mothers towards breast feeding changed in favour of industrial feeding because of increase in infant body weight and/or return to work. Marketing of alternatives to breast feeding also played a role. Promotion in the mass media had an impact on using of breast feeding alternatives, early weaning and early introduction of complementary feeding.

Our objectives in this study was to describe infant feeding attitudes and practices among Palestinian mothers in the Gaza strip (GS) during the year 2009 in relation to breast feeding (BF), complementary feeding (CF) and weaning practices (WP).

Methods:

Demography of the study area

Gaza strip is a narrow area of land lying on the coast of the Mediterranean Sea. Its position on the crossroads from Africa to Asia made it a target for occupiers and conquerors over the centuries (8). The Gaza strip is considered one of the most populated areas in the world

with a poverty level reaching 70% and a population of children reaching about 50% of the total population (9). In the Gaza Strip more than 1.5 million people live in an area of 360 Km². The population is distributed in cities, small villages and high concentration in eight refugee camps (this represent two third of the population). GS is divided into five governorates: North, Gaza city, Mid zone, Khanyonis, and Rafah (8).

The present study was conducted during the period from 1st November to 31st December 2009 and included 269 household visits as part of public awareness during the breast feeding awareness campaign. The test sample was selected according to the following inclusion criteria:

1. Women who have a youngest child aged two years or less.
2. Mothers were selected using systematic random sampling. During the visit to the houses, if there was no child two year or less the next house satisfying this criterion was included.

Questionnaire design and interview:

The questionnaire was designed to include some information of the infants including socio-demographic factors, health and nutritional history of mothers and history of infant nutrition (BF, CF, and WP). The questionnaire was translated into arabic. Questionnaire validity was also tested after circulating the questionnaire to six experts in the field of nutrition and health and working on all the comments and advices

Data collection and statistical analysis

The study population included 269 children up to two years old. Mothers were asked only about the youngest child whose age did not exceed two years.

Data were collected through household visits by 10 health educators working in

the breast feeding campaign. SPSS WIN (Version 13) was used to analyze the data. The cross tabulations and the Chi-square tests at a significance level of 5% were used to investigate the statistical association between the nutritional indicators and other factors.

Ethical considerations

Mothers were given a full explanation in the Arabic language about the purpose of the study and the participation was completely optional. In addition, consent form from parents to participate in the study during household visit was obtained. The mothers who participated in the study received the awareness session regarding infant feeding procedure.

RESULTS:

1. Characteristics of the study population

The minimum age was one month and maximum age was 24 month and the mean of age was 13 month. It is noteworthy that the Palestinian community in Gaza has almost approximately equal percentage of males & females.

Data were collected, compiled, processed from 269 mothers. The sample representing mothers of boy infants was similar to that of girl infants (55.8% and 44.2% respectively). The sample consisted of local citizens (17.8%) and refugees (82.2%). Of the mothers sampled 43.5% had a secondary level of education, 17.8% had a preparatory education level or less, 38.7% had university education or more. A total of 49.8% of children had fathers with university education, 24.9% with preparatory school education and 25.3% with secondary educational level.

The participants' characters are shown in Table 1. The ranking order of the children was determined and it was found that 50% of the participating children had a birth order of less than four.

Table 1. Characteristics of the participants

Characteristics	No (n=269)	%
Sex		
Male	150	55.8
Female	119	44.2
Refugee status		
Refugee	221	82.2
Local citizen	48	17.8
Mother education		
Preparatory or less	48	17.8
Secondary level	117	43.5
University level and more	104	38.7
Father education		
Preparatory or less	67	24.9
Secondary level	68	25.3
University level and more	134	49.8
Family income		
Less than 1000 NIS	102	38
1000-2000 NIS	95	35.3
More than 2000 NIS	72	26.8
Governorates		
North Gaza	78	29
Gaza	108	40.1
Middle zone	27	10
Southern governorates	56	20.8

NIS=New Israeli Shekel

Biological and feeding characteristics of children in Gaza strip are shown in Table 2. It was found that 48.7% (n=131) of the children were in the age range of one to two years old. It was also found that about 61.7% (n=166) of the children received breast feeding during the first hour after birth and 94.1% were fed colostrums from their mothers during the first day 5 to 7 days after delivery. A previous study done in Gaza reported that some mothers (12.7%) were not interested in feeding colostrums to the baby during the first day. Feeding on demand (59.1%, n=159) was the most common practice of breast feeding amongst the mothers.

In our study, there were 29 children (10.8%) with lower than average birth weight and 26 (9.7%) (n=26) children were pre-term. The results also showed that 58 (21.6%) children had a history of malnutrition.

Table 2. Biological and feeding characteristics of children in the Gaza strip

Variable	No	%
Age in months		
<6	41	15.2
6-9	55	20.4
10-12	42	15.6
13-24	131	48.7
Time of introducing breast feeding after birth		
No breast feed	6	2.2
In the first hour	166	61.7
Between one to six hour	67	24.9
After one day	30	11.2
Colostrums intake		
Yes	253	94.1
No	10	3.7
Number of breast feeding per day		
No breast feed	6	2.2
From 1-4 times	30	11.2
From 5-8 times	74	27.5
Feeding on demand	159	59.1
Birth weight		
Less than 2500 gm (LBW)	29	10.8
Between 2500-4000gm	228	84.8
More than 4000gm	11	4.1
Gestational age		
Less than 36 months (Preterm)	26	9.7
More than 36 months	243	90.3
History of malnutrition		
Yes	58	21.6
No	211	78.4

Table 3 shows the food types used by mothers in Gaza strip in 2009 for starting complementary feeding. The three common food types given by mothers to start complementary feeding were industrial milk (89.3%, n=208), vegetable soup (76.8%, n=179) and milled rice (45%, n=105).

Table 4 shows, the weaning practices amongst 127 mothers in Gaza Strip. Most mothers (48.8%, n=62) started weaning their children between the age of 12-18 months, whereas only small

Table 3. Type of complementary feeding used as supplementary food by 233 mothers in Gaza strip

Food type	No	%
Milled rice	105	45
Vegetable soup	179	76.8
Fruits (juice or milled)	191	82
Eggs	46	19.7
Industrial milk	208	89.3
Ready food	156	67
Biscuits (milled)	20	8.6

Table 4. Weaning practices among 127 mothers in Gaza strip

Variable	No	%
Age of weaning		
Less than 6 months	28	22
From 6-12	29	22.8
12-18	62	48.8
More than 18 months	8	6.3
How the mothers weaned their children		
Suddenly	62	48.8
Gradually	62	48.8
Other method like using of sedative	3	2.4
Causes of weaning		
Satiety from Complementary feeding	29	22.8
Pregnancy	27	21.3
Breast refusal by baby	21	16.5
Mother illness	11	8.7
No milk in the breast	14	11
Child was old enough and no need for breast milk	11	8.7

proportion of mothers (6.3%, n=8) started weaning their children after 18 months. The proportion of mothers (48.8%) who started weaning practice 'suddenly' without introduction or any preparation to the baby, were at equal proportion with those who 'gradually' weaned by gradually decreasing the number of breast meals (milk meals) to their children.

Table 5 shows, the weaning attitudes among 142 mothers in Gaza strip in 2009. The most common practice (45%) was to wean children at two years of age. However, 84 (59.2%) mothers weaned their children gradually.

Studies of household characteristics (Table 6) indicated that sun light and ventilation in subjects' homes were 92.2% and 91.4% of the sample respectively. The crowding index reflected the problem of crowding in small and highly populated area. Of people surveyed, 31.6% lived inside a house that has less than three rooms, whilst 62.8% of the participants lived in flats.

There is a problem of crowding within houses, yet Table 6 shows 63.6% live

Table 5. Weaning attitudes among 142 mothers in Gaza strip

The question	No	%
When did the mothers wean their children		
I don't know	19	13.4
After one year of age	31	21.8
After one year and half	28	19.7
At two years old	64	45
How the mothers weaned the children		
Gradually	84	59.2
Suddenly	54	38
Other method (like using analgesic supp. Or sedative)	4	2.8
Why mothers did not wean her children until 2 years		
Because he is young	92	65
Because of BF important for the baby	50	35.2

Table 6. Household characteristics for the participants (n=269)

Characteristics	No	%
Sun enter the house		
Yes	248	92.2
No	21	7.8
Aeration inside the house		
Yes	246	91.4
No	23	8.6
Sandy area inside the house		
Yes	86	32
No	183	68
The house is humid		
Yes	58	21.6
No	211	78.4
Number of rooms		
Less than three room	85	31.6
From 3-5 room	171	63.6
More than 5 room	13	4.8
Type of house		
Flat	169	62.8
House with sandy area	52	19.3
House with asbastoses	48	17.8

in properties of 3-5 rooms. We might mention that a high percent of families are living together with their married sons, where this reflects crowding.

Table 7 shows that feeding during the first two years of age consists of various parameters such as initiation of breast feeding, timing of feeding, duration of exclusive breast feeding and weaning practices. Times of giving exclusive breast feeding was highly significant

Table 7. The relationship between the start of weaning and some breast feeding and weaning practices

	Time of weaning (n=127)				P-value
	<6 months (n=28)	From 6-12 m (n=29)	From 12-18 m (n=62)	>18 months (n=8)	
Initiation of breast feeding					
No breast feed	6 (100)	0	0	0	0.001
In the first hour after birth delivery	16 (18.2)	20 (22.7)	45 (51.1)	7 (8)	
Between 1-6 hour	4 (16.6)	8 (33.3)	12 (50)	0	
After one day	2 (22.2)	1 (11.1)	5 (55.5)	1 (11.1)	
Timing of feeding (Demand)					
No breast feed	6 (100)	0	0	0	
From 1-4 times	3 (16.6)	3 (16.6)	8 (44.4)	4 (22.2)	0.001
From 5-8 times	5 (18.5)	5 (18.5)	13 (48.1)	4 (14.8)	
On demand	14 (18.4)	21 (27.6)	41 (54)	0	
Exclusive breast feeding					
No Exclusive breast feed	8 (38.1)	5 (23.8)	8 (38.1)	0	
Up to four months	15 (35.7)	11 (26.2)	13 (31)	3 (7.1)	0.001
From 4-6	5 (8.2)	11 (18)	40 (65.6)	5 (8.2)	
More than 6 months	0	2 (66.7)	1 (33.3)	0	
Weaning practices					
Gradually	5 (8)	18 (28.6)	34 (54)	6 (8)	
Suddenly	22 (36.1)	10 (16.4)	27 (44.3)	2 (3.3)	0.02
Other methods	1 (33.3)	1 (33.3)	1 (33.3)	0	

Table 8. Time of introducing the complementary feeding in relation to the type of food started

Complementary feeding started by the mothers	Time of *CF introducing n=233			P-value
	< 3months (n=58)	3-5months (n=128)	6-9 months (n=47)	
Milled rice				
Yes	19 (20)	58 (61.1)	18 (19)	0.322
No	39 (28.3)	70 (50.7)	29 (21)	
Vegetable soap				
Yes	33 (20.5)	88 (54.7)	40 (24.8)	0.015
No	25 (34.7)	40 (55.5)	7 (9.7)	
Fruit juice or milled				
Yes	37 (22)	92 (54.8)	39 (23.2)	0.282
No	21 (32.3)	36 (55.3)	8 (12.3)	
Eggs				
Yes	12 (26.6)	17 (37.8)	16 (35.5)	0.001
No	46 (24.5)	111 (59)	31 (16.5)	

*Complementary feeding

when the child become older (12-18 month) (p=0.001) Time of weaning shows a strong statistically significant relationship with initiation of breast

feeding, timing of feeding and exclusive breast feeding and weaning practices.

From the study it was observed that 186 (58+128) of babies received

Table 9. Childhood illness in relation to time of introducing complementary feeding

Childhood illness	Time of * introducing CF (n=233)			P-value
	< 3 months (n=58)	From 3-5 months (n=128)	From 6-9 (n=47)	
Gastrointestinal problems				
Yes	14 (29.4)	27 (53)	10 (19.6)	0.338
No	44 (24.2)	101 (55.5)	37 (20.3)	
Respiratory illness				
Yes	18 (31)	31 (53.4)	9 (15.5)	0.167
No	40 (22.8)	97 (55.4)	38 (21.7)	
Rickets				
Yes	4 (30)	8 (61.5)	1 (7.7)	0.849
No	54 (24.5)	120 (54.5)	46 (21)	

*Complementary feeding

complementary feeding before age of six month, while the rest received it by the normal age of six month and over, in accordance to the WHO/UNICEF recommendations (Table 8).

It is noteworthy that early introduction of eggs in the diet is a familiar practice in Gaza community, despite advice by nutritionists who recommend introducing white eggs at the age of eight month (Table 8). Vegetable soup (20.5%) and fruit juice (22%) were common food given by mothers to their babies at the age 3 to 5 months and both proportions drastically increased at 6 to 9 months (54.7%, 54.8%), but the differences were not statistically significant (Table 8).

Early introduction of complementary feeding at less than six month of age increased the exposure to the infections, such as gastrointestinal infections, respiratory illness and rickets (Table 9).

Gastrointestinal problems, respiratory illness and rickets were less when exclusive breast feeding was for more than 6 months. The statistical significant results are indicated only for gastrointestinal problems (0.025) and respiratory illness (0.009) as presented in Table 10.

Gastrointestinal problem, respiratory illness and rickets increased when

weaning was for more than 18 month (Table 11).

DISCUSSION:

The Socioeconomic Characteristics of the Participants:

The present study describes breast feeding, complementary feeding and weaning practices among children up to 2 years old in Gaza strip. Socio-demographic, history of nutritional status, breast feeding, complementary feeding and weaning attitudes and practices were also studied.

Most participants were refugees and the findings were not consistent with the actual distribution of refugees in the Gaza Strip (GS) where 62.2% of GS population is refugees.

In the present study, it was found that 38% of participants recorded a family size of more than six (mean family size was 6.0). According to Palestinian Central Bureau of Statistics (9) average family size in Gaza strip is 6.5. It was found that (38.7%) of the mothers had university degree while, half of the mothers had either secondary educational or preparatory educational level. These findings may reflect the perceived importance of high education

Table 10. Childhood illness in relation to period of exclusive breast feeding

Childhood illness	Exclusive breast feeding			P-value
	< 4 months	From 4–6 months	More than 6	
Gastrointestinal problem	(n=107)	(n=154)	(n=8)	0.025
Yes	20 (36.4)	30 (54.5)	5 (9)	
No	87 (40.6)	124 (58)	3 (1.4)	
Respiratory illness				0.009
Yes	32 (52.5)	26 (42.6)	3 (5)	
No	75 (36.1)	128 (61.5)	5 (2.4)	
Rickets				0.715
Yes	7 (43.7)	8 (50)	1 (6.3)	
No	100 (39.5)	146 (57.7)	7 (2.8)	

among Palestinian women. Higher percentage of mothers with secondary and preparatory educational level reflected social phenomenon that Palestinian families had a tendency to get their daughters married after the basic level of education. In contrast 49.8% of the fathers had university degrees and another 50% of them had either secondary or preparatory educational level. These findings indicate that males had higher percentage of university education in comparison with females.

Thirty eight percent of the families had monthly income of less than 1000NIS. The finding is supported by a report from United Nation which highlighted that there are a considerable proportion of families in the GS who do not have adequate monthly income, which

reflects poverty in the Palestinian Community (10). Abu-Murad (11) reported that the Israeli siege and closure had a devastating impact on the economic situation of the Palestinians in general and the refugees in particular. The ability of Palestinian families to secure adequate nutrition for their families, in general, and to their children in particular is threatened.

Biological and Feeding Characteristics of Children in Gaza Strip: A- Breast-feeding

From a public health perspective, it is highly desirable that neonates to be breast-fed immediately or within one hour after birth and continue so exclusively during the first six months of

Table 11. Childhood illness in relation to weaning period

Childhood illness	Time of weaning (n=127)				P-value
	< 6 months	From 6-12 months	From 12-18	>18 months	
Gastrointestinal problem	(n=28)	(n=29)	(n=62)	(n=8)	0.034
Yes	10 (31.3)	7 (21.8)	11 (34.4)	4 (12.5)	
No	18 (19)	22 (23.2)	51 (53.7)	4 (4.2)	
Respiratory illness					0.001
Yes	16 (41)	6 (15.4)	16 (41)	1 (2.6)	
No	12 (13.6)	23 (26.1)	46 (52.3)	7 (8)	
Rickets					0.489
Yes	3 (30)	3 (30)	4 (40)	0	
No	25 (21.4)	26 (22.2)	58 (50)	8 (7)	

life. In the present study, a large number of babies 61.7% started breast feeding within one hour of birth, 25% of them were delayed by one to six hours. Another 11.2% received breast feeding one day after birth while 2.2% of children were bottle fed from the birth. In order to facilitate breast-feeding, health care providers (HCP), nurses and physicians should provide an inductive environment in term of supporting nursing mothers and encourage them to initiate breastfeeding. Practicing of rooming-in policy is well established in all of the maternity hospitals, but the average length of stay of mothers in the hospital need to be prolonged. Strengthening the choice of breast-feeding as first food for the newly-born baby depends on delivery in the hospital or a special health clinic and level of mothers' awareness in addition to a supportive family environment (2). Colostrums intake was found to be highly desirable for the children in this study, where 94.1% of the children received the colostrums during the first few days after delivery. Introduction of colostrums to the baby cleans the stomach and provides nourishment. It is the baby's first immunization (12). Our findings differ from a previous study on mothers' knowledge attitude and practice (KAP) regarding infant feeding in Gaza strip where 13% of mothers were not interested in feeding the colostrums (13). This difference justifies further investigation. The findings of this study showed that about 51% percent of the lactating mothers fed their babies on demand. A similar study in India showed different result whereby less than 36.6% of lactating mothers fed their babies on demand (14). This difference might due to different level of knowledge among the mothers and could be due to cultural differences reflecting on family support.

The most frequent cause of weaning in the present study was satiety from

complementary feeding followed by pregnancy. Termination of breast feeding in Lebanon was due to insufficient breast milk and the child perceived as being old enough (2).

Infant feeding in relation to respiratory and gastrointestinal diseases were also noted in the present study. Respiratory and gastrointestinal diseases showed low prevalence among babies who received exclusive breast feeding for six month or more. These results were similar to findings from other studies (15,16), which reported protective effects of breast feeding in relation to respiratory and gastrointestinal diseases during the first six months of life.

Biological Characteristics and History of Malnutrition:

In the present study, it was found that 10.8% of babies had low (less than 2500 gm) birth weight (LBW). The major risk factors associated with low birth weight were; poor socioeconomic status, bad intake of nutrient during pregnancy, multiple pregnancies, , previous smoking, stress, infection, and low socio-demographic state. According to the annual report of MOH 2007 the prevalence of LBW was 7% (9). Some studies reported that the prevalence of LBW in certain countries was between 3.1% to 13.3% (17,18).

Low birth weight in Gaza could be related to maternal nutrition during pregnancy, sociodemographic characters, stress (psychological) factors and this needs further investigation.

Our study found that about 9.7% of the children were delivered prematurely and possible risk factors for Wthis are previous premature delivery, poor socio-economic status and early marriage which are very common in the Palestinian community. Nevertheless, the real causes of premature labor are not known amongst affected women. Other potential risk factors include

infection of the uterus or cervix, multiple pregnancies, age of mothers and urinary tract infection.

The proportion of children with history of malnutrition in the study is about 21%. A recent study reported that Palestinian infants who attended PHC centers are at high risk of malnutrition because of the devastating economic situation (19).

B-Weaning:

According to WHO/UNICEF recommendations breast feeding should be continued until two years of age. Our findings showed that 55.1% of the mothers weaned their children between ages of one to two years. Thus, there is a need for extensive efforts to encourage mothers to continue breast feeding until the age of two years. It was also found that 48.8% of the infants were weaned suddenly and another 48.8% were weaned gradually. The most common reason cited in this study for weaning were satiety from the complementary feeding 22.8%, new pregnancy 21.3%, breast refusal by the baby 16.5%, mother falling ill 8.7%, no milk in the breast (11%) and finally child become old and reaching weaning age 8.7%. Our study finding is different from a study undertaken in Kuwait (20) which found that the main reasons for weaning were new pregnancy (14.7%), infant refusal (10.6%) and insufficient milk (30.7%). Insufficient milk was the most likely cause to stop breastfeeding amongst mothers as highlighted in the present study and the proportion of mothers who did not practice weaning at baby's age of 18 months was about 35% and the main reason reported was 'importance of breast milk for health of the baby. The wide gap might reflect many determinants such as early pregnancies, early introduction of breast milk substitutes, and lack of mothers' family support.

One of the main reasons behind positive attitudes for continuing breastfeeding of the baby is the benefits and the age of the child.

Strong significant statistical relationship was noted between the time of weaning and initiation of breast feeding initiation, timing of feeding, exclusive breast feeding and weaning practices. Mothers, who breast fed their children early during the first hour after delivery, fed their children on demand, practiced exclusive breast feeding for more than four months and gradually weaned their babies tended to wean their children after one year of age. A study done in Turkey (22) reported that about 35% of the respondents initiated breastfeeding within the first hour after birth whilst 72% of respondents initiated breastfeeding within the first two hours of birth.

C- Complementary feeding

Complementary feeding in the present study was practiced by 233 mothers and the most frequent type of food introduced were fruits juice or crushed (milled) fruits, vegetable soup and/or ready prepared food, whilst 89.3% used industrial milk. More than 26% of mothers had introduced solid food before the age of 4 months (13). It was also found that 45% and 19.7% of the mothers started with milled rice and eggs as complementary feeding, respectively.

It is recommended that a baby receives as complementary food about 100 Kcal per day as separate serving meal. Serving meal should contain a variety of nutrients and not only food that has high calories. (12). Complementary food, water, animal milk/formula milk should not be given before six month of age because they not only decrease the mothers milk supply, but also can be as a source of infection (12).

In the UK, it is recommended that solid food should be introduced at around six months for both breast fed and bottle-fed infants (23).

In the present study 233 86.6% of the children received complementary feeding at different age. Of those, 24.9% received complementary feeding before the age of three months while 55% received complementary feeding between ages of 3-5 months of age. In Bahrain, about 62% of infants were introduced to solid foods between 3 and 6 months of age. A fat baby was regarded as healthy, encouraging mothers to offer complementary foods before six months of age. Proper introduction of complementary foods should be incorporated in the management of postnatal recovery efforts, such as all health education materials (2).

Early introduction of complementary feeding for 186 babies out of 233 of 79.8% may have a negative effect on the health of those babies and deprive them of receiving antibodies and immunoglobulin. Early introduction of complementary feeding to babies play a significant role in reducing the age of babies weaning.

It is recommended to use health education regarding the importance of breastfeeding and normal weaning.

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