

Maternal characteristics and infant and young child feeding in Benghazi

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خصائص الأمهات وعلاقتها بتغذية الرضع وصغار الأطفال في بنغازي

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خلاصة : أجريت مقابلات مع حوالي مئتين من الأمهات المترددات على مستشفى الفاتح لطب الاطفال بنغازي خلال عام 1992 . كانت أعمار معظمهن أقل من 30 سنة ، وكانت الأكثرية إما غير متعلّقات أو حصلن على تعليم ابتدائي فقط . وكان من ربات البيوت . كما لم يسبق لهن الإجهاض أو فقد الأطفال أو استعمال وسائل منع الحمل . وكان عدد الأطفال الأحياء لدى كل منهن يتراوح بين طفل واحد وثلاثة أطفال ، وكانت مصادر معلوماتهن حول الإرضاع من الثدي أمهات أزواجهن وأقاربهن وجيرانهن . وقد انفقن على أن الإرضاع من الثدي طريقة طبيعية ومغذية جداً ونظيفة إلا أنهن مارسن التغذية المختلطة . وكانت أسباب بدء التغذية الصناعية راجعة إلى الأم في 49.4% من الحالات وإلى الطفل في 36.5% من الحالات . وكانت الضغوط الاجتماعية هي السبب في 13.8% من الحالات . وتشدد المقالة على أهمية اتخاذ التدابير الكفيلة بنجاح الإرضاع من الثدي .

ABSTRACT Two hundred (200) mothers consecutively attending Al-Fateh Paediatric Hospital, Benghazi in 1992 were interviewed. The majority of women were under 30 years of age, had primary or no education, were housewives, had no experience of pregnancy wastage or child loss, used no contraception, had one to three living children, had information about breast-feeding from the mother-in-law, a relative or a neighbour, considered breast-feeding a natural way, nutritionally superior and hygienic, and practised mixed feeding. The reasons for introducing artificial feeding were maternal in 49.7% of cases, filial (related to the baby) in 36.5% and due to social pressure in 13.8%. Measures for successful breast-feeding are emphasized.

Caractéristiques des mères et alimentation du nourrisson et du jeune enfant à Benghazi

RESUME Deux cents (200) mères venant en consultation à l'hôpital pédiatrique Al-Fateh de Benghazi en 1992 ont été interrogées. La majorité de ces femmes avaient moins de 30 ans, avaient reçu une instruction primaire ou n'avaient aucune instruction, étaient des femmes au foyer, n'avaient pas fait de fausses couches et pas perdu de bébé, n'utilisaient pas de contraceptifs, avaient un à trois enfants, avaient été informées au sujet de l'allaitement au sein par leur belle-mère, une parente ou une voisine, considéraient l'allaitement maternel comme un moyen naturel, supérieur sur le plan nutritionnel, et hygiénique, et pratiquaient l'alimentation mixte. Les raisons à l'origine de l'introduction de l'alimentation artificielle étaient liées à la mère dans 49.7% des cas, au bébé dans 36.5% des cas et dues aux pressions sociales dans 13.8% des cas. Les mesures permettant un allaitement maternel satisfaisant sont soulignées.

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Introduction

The importance of breast-feeding, especially in developing countries, including Arab countries, has been emphasized by a number of investigators [1-4]. In recent years, the effect of maternal factors on breast-feeding, growth and morbidity and mortality has been reported [5-7]. In the Middle East, maternal influence on breast-feeding trends has been documented [8-11]. The Libyan Arab Jamahiriya has undergone very rapid socioeconomic transformation, and data on maternal characteristics are generally lacking. The few studies carried out on breast-feeding have been limited in scope, place, time or maternal characteristics [7,12,13,14]. The current article describes the maternal variables and feeding practices of infants and young children attending outpatient paediatric services.

Subjects and methods

Benghazi is the second largest city of the Libyan Arab Jamahiriya and its population increased from 60 000 in 1948 to 632 466 in 1991, mainly due to urban-rural migration and higher fertility of Libyan women. There were 15 928 live births during 1991, of which more than 95% were in Al-Jamahiriya Teaching Hospital. The infant mortality rate was 57.6 per 1000 live births in 1991.

The study was conducted at Al-Fateh Paediatric Hospital, Benghazi, which is the only hospital with outpatient emergency care as well as 200 beds for inpatient services. During 1992, there were 7048 admissions and 273 (3.9%) deaths. The hospital is easily accessible to all the population of the Benghazi Municipality. Referral cases come from the whole of the eastern part of the Libyan Arab Jamahiriya.

The outpatient department is open 24 hours a day and children with all medical disorders are cared for. The present survey included mothers of 200 babies consecutively attending the outpatient clinic of the hospital between 1 June and 31 August 1992. The outpatient service of Al-Fateh Paediatric Hospital is used by all strata of society for illness and investigations.

The selection criteria included only those babies who had had full term normal deliveries, were visiting the clinic for the first time and were suffering only from mild to moderate illness such as acute respiratory infection, fever and diarrhoea which required no hospitalization. Babies who had abnormal modes of birth, prematurity, congenital malformations, serious illness or chronic disease were excluded from the study. With regard to data collection, two trained senior house officers interviewed the mothers in Arabic using a pre-tested questionnaire about maternal factors and feeding practice. Maternal variables included for analysis were: maternal age, education level, employment status, reproductive experience, source of information and knowledge about breast-feeding, time of introducing artificial feeding and type of semisolids or solids. Every morning the questionnaires completed during the previous day were reviewed and edited.

Results

Maternal characteristics

It was found (see Table 1) that 30.5% of the mothers belonged to the young reproductive age group of 15-24 years, 48.5% to the middle reproductive age group of 25-34 years, and 21.0% to the elderly reproductive age group of 35-44 years.

Eighteen per cent (18.0%) of the mothers had one living child and 44.0% had 2-3

Table 1 Maternal characteristics of babies attending Al-Fateh Paediatric Hospital, Benghazi, 1992

Maternal characteristic	Number of women <i>n</i> = 200	Percentage	Maternal characteristic	Number of women <i>n</i> = 200	Percentage
<i>Age in years</i>			Intrauterine devices	17	8.5
15-19	3	1.5	Injectable		
20-24	58	29.0	contraceptive	1	0.5
25-29	66	33.0	<i>Experience of abortions/stillbirths</i>		
30-34	31	15.5	None	158	79.0
35-39	30	15.0	One	29	14.5
40-44	12	6.0	Two to four	13	6.5
<i>Number of children currently living</i>			<i>Experience of childloss</i>		
1	36	18.0	None	161	80.5
2-3	88	44.0	One	27	13.5
4-6	34	17.0	Two to five	12	6.0
7-9	30	15.0	<i>Source of information about baby feeding</i>		
10-12	12	6.0	Mother-in-law	98	49.0
<i>Educational attainment</i>			Mass media	42	21.0
None	59	29.5	Health staff	33	16.5
Primary	62	31.0	Neighbours	15	7.5
Preparatory	19	9.5	Other relatives	5	2.5
Secondary	40	20.0	None	7	3.5
Diploma	16	8.0	<i>Knowledge about advantages of breast-feeding*</i>		
University	4	2.0	Hygienic	116	58.0
<i>Employment status</i>			Nutritional		
Housewife only	178	89.0	superiority	114	57.0
Teacher	13	6.5	Natural way	112	56.0
Office worker	5	2.5	Immunity to baby	79	39.5
Others	4	2.0	Always available	47	23.5
<i>Contraceptive use</i>			Acts as contraceptive	20	13.0
None	128	64.0			
Oral pills	54	27.0			

*This question permitted more than one response

living children. At the other end, 21.0% had 7-12 living children.

With regard to educational level, 29.5% of the mothers were illiterate, 31.0% had completed primary education and 39.5% of the mothers had had an education between preparatory and university level. The majority of the mothers (89.0%) were house-

wives only and 11% were gainfully employed outside the house in teaching, office work, nursing and social work.

The majority of mothers (64.0%) were using no method of contraception, 27.0% were taking oral pills, 8.5% had had intrauterine devices inserted and one woman was using an injectable contraceptive. Past his-

Table 2 Mode of feeding by the mother according to the baby's age

Baby's age (months)	Exclusive breast-feeding		Mixed feeding		Exclusive artificial feeding		Total	
	No.	%	No.	%	No.	%	No.	%
0-3	7	25.9	12	44.4	8	29.6	27	100
4-6	5	10.4	38	79.2	5	10.4	48	100
7-9	7	17.9	24	61.5	8	20.5	39	100
10-12	9	22.0	29	70.7	3	7.3	41	100
13-24	11	24.4	31	68.9	3	6.7	45	100
All ages	39	19.5	134	67.0	27	13.5	200	100

tory of abortions or stillbirths revealed that 79.0% of mothers had had none, while 21.0% had experienced between one and four. Of the 200 mothers, 80.5% had not experienced any child loss, while 13.5% had lost one child, 4.0% had lost two and 2.0% had lost 3 to 5 children.

In 49.0% of cases, the mother had obtained information about feeding the baby from her mother-in-law or a relative, in 21.0% of cases from the media, in 16.5% of cases from health staff and in 7.5% of cases from neighbours. When asked about the advantages of breast-feeding, 56%-58% considered it hygienic, nutritionally superior and a natural way of feeding; 39.5% considered it provided immunity to the infant; 23.5% thought it a convenient process; and 13.0% believed it to be a form of contraception.

Feeding practices (Table 2)

As shown in Table 2, exclusive breast-feeding ranged from 10.4% to 25.9% within the age of 24 months. For the same period, exclusive artificial feeding ranged from 6.7% to 29.6%. However, the most common method of feeding among Libyan mothers was mixed feeding (breast plus artificial) which varied from 44.4% to 79.2% at different ages. Because of the cross-sectional

nature of the data pattern, the age of switching over from breast to mixed or artificial feeding could not be determined.

There was no statistical significance observed between maternal age and duration of breast-feeding (Table 3). Educational level had a direct relationship with the introduction of semisolids before 6 months of age (Table 4). The reasons for introducing artificial feeding were maternal in 49.7% of the cases, filial in 36.5% and social in 13.8% of the cases (Table 5).

Discussion

Maternal characteristics such as age, parity, educational attainment, employment status,

Table 3 Relation between maternal age and duration of breast-feeding*

Maternal age (years)	Duration of breast-feeding	
	< 6 months No.	≥ 6 months No.
< 25	51	17
25-34	50	24
35-44	15	16

* Excluding 27 mothers who provided exclusive artificial-feeding

Table 4 Relation between maternal education and time of introducing semisolid food in 112 mothers from the study group*

Maternal education	Age at introduction of semisolids		Total
	< 6 months	≥ 6 months	
Primary or none	44	34	78
Preparatory or higher	33	11	44
Total	77	45	112

$\chi^2 = 4.17$ ($P < 0.05$)

*Excluding 88 mothers who did not introduce any semisolid food to their children

Table 5 Reasons for introducing artificial feeding

Reasons	Number of women	Percentage
Maternal		
Inadequate milk secretion	23	14.5
Subsequent pregnancy	18	11.2
Illness and/or medication	14	8.8
Use of oral pills	9	5.7
Local breast problems	8	5.0
Return to work	3	1.9
Unwillingness	3	1.9
Travel	1	0.6
Subtotal	79	49.7
Filial		
Refusal/uninterested	47	29.6
Old enough	6	3.8
Sickness	5	3.1
Subtotal	58	36.5
Social pressure	22	13.8
Total	159	100

use of contraception, reproductive experience, information sources and knowledge about breast-feeding may all affect a mother's decision to breast-feed and her success with it.

The present study has shown maternal characteristics and feeding patterns common to many developing countries. Nearly two-thirds of the mothers were under 30 years of age. In a nationwide survey in Saudi Arabia, 68.2% of mothers were under 35 years of age and in Khartoum, 62.4% of mothers were under 30 years of age [8,15]. A similar percentage of young mothers was reported in a resettlement community of Benghazi earlier [12]. Thus, a high proportion of mothers are under 30 years and this seems to confirm the attitudes, practices and social set up of the community at large.

The study showed that 62.0% of mothers had between 1 and 3 living children, and 21.0% had 7 living children or more. For 18.0% of mothers it was their first baby. In comparison, in Sudan, 26.5% of mothers had one living child and 82.8% had 1 to 4 living children [15]. In Benghazi 14 years ago, 47.6% had 7 or more children [12]. Therefore, the proportion of mothers with a small number of living children seems to be greater in the present study. This is most probably due to increasing modernization and improved socioeconomic status.

Childloss data showed that 19.5% mothers had lost at least one child. Abortions and stillbirths were experienced by 21.0% of mothers in all, and 6.5% had had more than two. The prevalence of abortions and stillbirths among mothers reflects the poor quality of life or health facilities or the lack of utilization of health care services.

Educationally, only 39.5% of the mothers had completed the preparatory level or higher (up to university). In Saudi Arabia, 22.8% had had a preparatory or higher edu-

cation (up to university). The majority of women were exclusively housewives and only 11.0% were employed outside the house. In an earlier study in Benghazi, a similar observation was noted, where 12.5% of women were working outside the home [14]. Although the proportion of working women is still low, it is likely to increase in the coming years because of an increase in female literacy, cost of living and opportunities for suitable employment.

The main source of information on baby-feeding was the mother-in-law (49.0%) followed by 37.5% from mass media (radio, television and newspapers) and from health staff. Breast-feeding is both an art and a science and it should be taught through direct contact with health staff in maternal and child health centres, polyclinics and hospital emergency services. When asked about advantages of breast-feeding, 56%–58% of mothers were aware that it was hygienic, was a natural way of feeding and that it was nutritionally superior to artificial feeding. It is interesting to note that a significant proportion of women also appreciated its continuous availability (23.5%), its provision of immunity to the infant (39.5%) and its contraceptive function to the mother (13%).

Exclusive breast-feeding, irrespective of the baby's age, was practised by a small proportion (19.5%) of women compared with 67.0% using mixed feeding. Supplementary feeding with another milk was practised by 44% of mothers by 3 months and more than 60% thereafter. Overall, breast-feeding, with or without supplementary feeding, was being practised by 70%–99% of mothers. Mothers have often supplemented breast-feeding with artificial feeding quite early in the Libyan Arab Jamahiriya and other Arab countries [8,12–15]. There was a consensus of opinion that the optimum time for introducing

artificial food (milk, semisolid or solid) is between 4–6 months of age [16,17]. Maternal age was found to have no influence on the duration of breast-feeding.

Although exclusive breast-feeding is desirable up to the first 4–6 months, it seems to protect infants against possible introduction of infections even when other milks are given along with the breast milk during this period [17]. In the present study it was quite alarming that exclusive artificial feeding was being adopted by 29.6% of mothers within 3 months and that 74.0% of mothers during that period were artificially feeding their infants with or without breast-feeding. However, some advantages of breast-feeding were being retained by the majority of (93.3%) infants in the second year of life.

The reasons for the introduction of artificial feeding were maternal in 49.7% of cases, and for the rest (50.3%) they were filial (related to the child) and social. Among Saudi Arabian women, filial and social reasons contributed to the introduction of artificial feeding in 27.1% of the cases [9]. The main maternal reasons for artificial feeding included: inadequate milk secretion (the most common reason); subsequent pregnancy; maternal illness or medication; use of oral contraceptives; and local breast problems. Return to work, unwillingness to breast-feed and travelling abroad were reported by 7 mothers. The main filial reason for artificial feeding was that the infant was uninterested in breast-feeding.

Introduction of semisolids was done earlier by those educated up to preparatory level or higher compared to those having only primary education or no formal education. Thus, in the present study education appeared to have no influence on the duration of breast-feeding but significantly influenced the age at which semisolids were introduced.

Conclusions and recommendations

Although a large proportion of women was found to be breast-feeding at various ages, many, quite early on, had either shifted to exclusive artificial feeding or supplemented breast-feeding with artificial feeding. The women who said that they did not have sufficient milk, their babies showed a lack of interest or they had social pressures may not have known how to breast-feed correctly or lacked the necessary help or support from their families. Physiologically, the amount of milk a woman produces depends more on the frequency, duration and intensity of infant suckling than on maternal nutrition or other maternal factors.

In future, many Libyan women will be completing higher education and will become part of the workforce. Their new roles may interrupt the practice of regular breast-feeding and they may resort to different baby formulas which are now readily available throughout the country. Furthermore, breast-feeding is likely to decline with the increase in urbanization and better living standards. The increasing use of oral contraceptives may also reduce the amount of breast milk or the duration of lactation.

All health workers, including doctors, nurses and nutritionists, should be responsible for emphasizing the importance of breast-feeding to mothers during antenatal and postnatal periods. Mothercraft should be included in the educational curriculum of girls in preparatory, secondary and teacher training schools. Courses on successful management of breast-feeding should be given to doctors, nurses and nutritionists. Hospitals should alter their policies and practices in order to be classified as baby-friendly hospitals. The baby-friendly hospital initiative is a global movement to encourage health care facilities to

protect, promote and support exclusive breast-feeding from birth onwards.

The 10 steps for successful breast-feeding as outlined by the World Health Organization and United Nations Children's Fund, which are given below, must be adopted in all paediatric and maternity hospitals, maternal and child health centres, and community health units.

1. Have a written breast-feeding policy that is routinely communicated to all health staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breast-feeding.
4. Help mothers initiate breast-feeding within half an hour of birth.
5. Show mothers how to breast-feed and how to maintain lactation, even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practise rooming-in to allow mothers and infants to remain together 24 hours a day.
8. Encourage breast-feeding on demand.
9. Give no artificial teats or pacifiers to breast-feeding infants.
10. Foster the establishment of breast-feeding support groups and refer mothers to them on discharge from the hospital or clinic.

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