

Breastfeeding Practices in Urban Riyadh

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Summary

Three hundred and forty-seven mother-infant pairs attending a well baby clinic in a University Hospital in Riyadh were interviewed on the type of feeding given to their infants. The objective was to assess the latest trend of infant feeding practices in an urban population and to compare present trends and their significance with previous reports. Results showed that 32.4 per cent of infants at 3 months and 22.1 per cent of infants at 6 months were exclusively breastfed; 18.2, 48.4, and 65.4 per cent were exclusively bottle fed at 3 months, 6 months, and 1 year respectively. Weaning foods were added between 3 and 6 months to a very high percentage of infants. Insufficient breast milk and refusal of breast by the infant were among the most common reasons for introduction of bottle feeds.

Introduction

The entire population of Saudi Arabia has access to free comprehensive health care.¹ However, increased utilization of health services contrasts sharply with the decreasing prevalence and duration of breastfeeding. Reports on breastfeeding practices in Saudi Arabia in the past two decades have shown an initial declining trend in urban populations² with a high prevalence in rural areas,³ followed by a decline even in rural areas.^{4,5} Later, others reported a declining trend in all groups of urban and rural populations.⁶ An authoritative survey in 1987 by Al Mazrou *et al.*⁷ alerted us to the disparity between breastfeeding practices and WHO recommendations, conspicuous in urban areas. Therefore we conducted our study to monitor this trend by selecting a representative urban population.

Methods

Three hundred and forty seven mother-infant pairs attending the Well Baby Clinic of King Khalid University Hospital, Riyadh, were selected randomly and details of the following variables were obtained.

Of the infants. Sex, age, gestational age, nationality, history of admission to NICU for more than 24 h, mode of delivery, birth weight, present weight, length and head circumference in percentiles.

Of the mothers. Age, educational level, working status, number of children, order of the present child, the type of feeding, duration of breastfeeding, the plan to breastfeed when pregnant, any advice on breastfeeding from support and advisory groups, breastfeeding in

TABLE 1
Pattern of feeding according to age groups

Age (months)	Total n (%)	Mixed feeding n (%)	Bottle feeding n (%)	Breastfeeding n (%)
≤1	34 (9.8)	21 (61.8)	04 (11.8)	09 (26.5)
≤3	148 (42.7)	73 (49.3)	27 (18.2)	48 (32.4)
≤6	95 (27.4)	28 (29.5)	46 (48.4)	21 (22.1)
≤9	15 (4.3)	05 (33.3)	07 (46.7)	03 (20)
≤12	32 (15.0)	09 (17.3)	34 (65.4)	09 (17.3)
>12	03 (0.9)	00 (0)	03 (100)	00 (0)
Total	347 (100)	136 (39.2)	121 (34.9)	90 (25.9)

earlier children, reasons for choosing bottle feeding, addition of weaning foods.

Of the fathers. Age, job, education, and support of breastfeeding.

Of the family. Income, presence of housemaid.

Infants were grouped into the following broad categories for analysis: exclusively breastfed (breast + semisolids); exclusively bottle fed (bottle + semisolids); and infants on mixed feeding (breast + bottle + semisolids). Statistical analysis of the data was carried out using the 'Statpac Gold' software package utilizing chi-square tests to study the relationship of the variables with the type of feeding. A *p* value less than 0.05 was taken as significant.

Results

Of the 347 pairs, 79.5 per cent were Saudi and 20.5 per cent were non-Saudi; 57.8 per cent of the infants were males and 42.2 per cent were females. Data in Table 1 reveal that 42.7 per cent of all the infants were less than 3 months of age. Breastfeeding was exclusive in 32.4

per cent of infants at 3 months and 22.1 per cent at 6 months of age. None of the children more than 12 months of age were receiving breastfeeds. Exclusive bottle feeding was seen in 48.4 per cent at 6 months. At 1 month, 61.8 per cent of infants were receiving mixed bottle and breastfeeds.

Weaning foods were started on 88.6 per cent of breastfed infants between the ages of 3 and 6 months; 90.1 per cent of bottle-fed infants were started on weaning foods between the ages of 3 and 6 months (Table 2).

26.8 per cent of all the women were employed. Whereas only 30.6 per cent of non-working mothers breastfed their infants exclusively, 12.2 per cent of working women breastfed their infants exclusively (Table 3). The results were statistically significant ($p < 0.01$).

Of mothers in salary profiles of SR2000–5000 and SR500–8000, 35.4 and 31 per cent, respectively were breastfeeding. Of those in high income profiles (SR8000–SR10000 and more than SR10000) 17.8 and 18.4 per cent, respectively were breastfeeding (Table 4). It has to be noted that our figures are to be understood in the context of a conservative population that may not know or fully reveal their actual incomes.

TABLE 2
Introduction of weaning foods

Type of feeding	Total	6–9 months n (%)	3–6 months n (%)	<3 months n (%)
Breastfeeding	35	3 (8.6)	31 (88.6)	1 (2.9)
Bottle feeding	91	1 (1.1)	82 (90.1)	8 (8.8)
Mixed feeding	32 (100%)	0	42 (80.8)	10 (19.2)

TABLE 3
Mother's working status and type of feeding

Mother's status	Total n (%)	Mixed feeding n (%)	Bottle feeding n (%)	Breastfeeding n (%)
Not working	251 (100)	93 (37)	81 (32.2)	77 (30.6)
Working	93 (100)	42 (45.6)	40 (44.4)	11 (12.2)

TABLE 4
Pattern of feeding according to monthly income

Income	Mixed feeding n (%)	Bottle feeding n (%)	Breastfeeding n (%)	Percentage of sample n = 347 (100%)
<SR2000	5 (45.5)	5 (45.5)	1 (9.1)	11 (3.2)
SR2000-5000	27 (28.1)	35 (36.5)	34 (35.4)	96 (27.7)
SR5000-8000	52 (36.8)	28 (32.2)	27 (31.0)	87 (25.1)
SR8000-10000	20 (44.4)	17 (31.3)	8 (17.8)	45 (13.0)
>SR10000	41 (53.9)	21 (27.6)	14 (18.4)	76 (21.9)
Don't know	11 (34.4)	15 (46.9)	6 (18.8)	32 (9.2)

SR1000 = US\$267.

Of the 53.7 per cent who had one to three children, 20.9 per cent of them were breastfeeding. Of those with more than five children (23.3 per cent), 23.6 per cent were breastfeeding. Primiparac constituted 27.2 per cent of the total, 54.3 per cent of these mothers were bottle feeding exclusively whereas only 19.4 per cent of multiparous mothers who were with their fifth child were bottle feeding exclusively. In reply to the question on why they chose to bottle feed (72.3 per cent of the total) the most common reasons were (i) that they had insufficient breast milk (52.6 per cent), (ii) the infant refused breast milk (15.5 per cent), and (iii) being a working mother (12.0 per cent). Ninety-seven per cent of the mothers said they had been planning to breastfeed when they were pregnant. There was no significant relationship between the type of feeding and the sex of the child, the mode of delivery or admission to NICU for more than 24 h, or the birth weight, or the percentile distribution of length, weight, or head circumference of the infant. There was also no significant relationship between the type of feeding and the father's age, occupation, education, or attitude towards breastfeeding.

24.1 per cent of the mothers were between 15 and 25 years of age and 56.8 per cent of the mothers were between 25 and 35 years of age but there was no significant relationship between mothers' age and the type of feeding ($p = 0.07$). There was also no significance between the type of feeding and the mother's educational level, advice received by her on breastfeeding, her reasons to choose breastfeeding, or the presence of a housemaid.

Discussion

A glance at the numerous reports from Saudi Arabia on breastfeeding from 1980 to the present reveal a trend in which the practice started declining among the urban population and was closely followed by the population in rural areas (Fig. 1). The prevalence of breastfeeding in our study was 22.1 per cent at 6 months which is lower than reported earlier⁵ in a randomly selected population in Riyadh. In a national survey in 1985-87 the prevalence stood at 50 per cent at 3 months and 10 per cent at 1 year.⁹ Another survey at a primary health centre

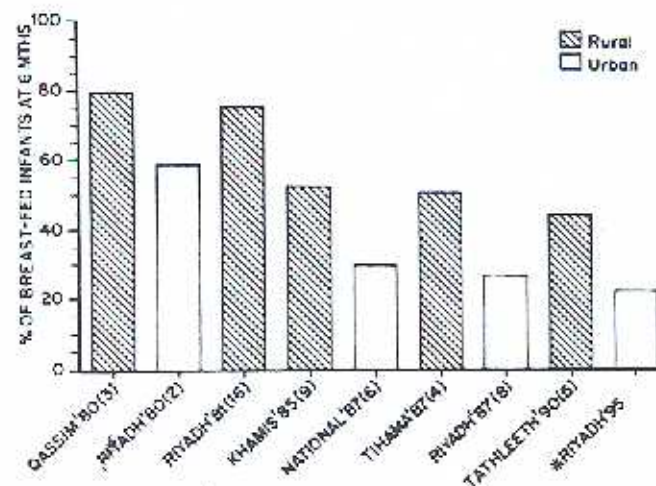


Fig. 1. Prevalence of breastfeeding at 6 months of age from 1980 to present. Reference numbers are given in parentheses. (*Present study.)

in Taif in 1982 showed a prevalence of 55 per cent at 3 months and 38 per cent at 6 months.¹⁰

The figures in our study are lower because of (a) an expected decline as urbanization increases, (b) a sample which is representative of the urban 'well-to-do'. The limitations of our study are (a) a small sample size and (b) selection bias due to the nature of our study, which was hospital based. In this study, 18.2 and 48.4 per cent, respectively of infants were exclusively bottle fed at 3 and 6 months of age. However, addition of bottle feeding to breastfeeds was very common, 40 per cent doing so by 6 months of age. Al Frayh *et al.* have shown that 67 per cent of infants between 3 and 6 months were started on bottle feeds.⁵ In another study, 42.4 per cent of infants at 3 months and 47.2 per cent at 6 months were entirely bottle fed.⁹ Bottle feeding was also very common in primiparous mothers in our study (54.3 per cent) compared to multiparous mothers (19.4 per cent). No relationship of breastfeeding to parity was noted in rural Tathleeth.⁴ In another study in a rural community¹ two-thirds of the mothers with only one child were breastfeeding for more than 6 months, compared to one-third of multiparous mothers. As has been reported earlier,^{2,4,5,9,10-12} insufficient breast milk was the most common reason for the introduction of bottle feeding, followed by refusal of the infant to suck on the breast. This is explained by the possibility that once bottle feeding is introduced, the infant may prefer bottle feeding to breastfeeding. Less stimulation of the nipple then reduces the secretion of breast milk. Another reason may be nipple 'confusion' between the bottle and breast. Added to this is the habit of using a pacifier or dummy, leading to faulty sucking technique.^{12,13} A large number of infants (88.6 per cent) on breastfeeding were introduced to weaning foods between 3 and 6 months (Table 2). This was also accompanied by a steep decline in breastfeeding between 3 and 6 months. This pattern is the same as reported by Al Frayh *et al.* in urban Riyadh.⁵ The median age for weaning was 11 months in a national survey.⁹ The average age at the end of weaning in a rural community was 11.7 months.⁴ There is a general decline in breastfeeding in working as well as non-working mothers: 26.8 per cent of all the mothers held a job, of whom only 12.2 per cent were exclusively breastfeeding. In the national survey where 13 per cent held jobs, mostly in the teaching profession, the average duration of feeding was 6 ± 2.5 months.⁶ In Yemen, 19 per cent of working mothers breastfed for less than six months and none of them were breastfeeding after 6 months.¹⁰ In our study, those with the highest income were least likely to be breastfeeding. These are the urban 'elite' who set the trend for others to follow. The salary profiles were similar to a study reported from Riyadh,⁸ but the prevalence of breastfeeding was lower in our study. In Sweden the return to breastfeeding started amongst the urban well-to-do and spread to other socio-economic groups.¹⁴ Similar to our findings, Bordon *et al.*¹¹ found no significant effect of infant sex on breastfeeding. In our study the father's attitude

towards breastfeeding had no significance which is similar to a study from Egypt.¹⁵ We did not find significant relationship between the type of feeding and infant sex, mode of delivery, or admission to NICU, for more than 24 h. In initial studies, home deliveries, illiteracy, and a rural setting had no positive effect on breastfeeding. The national study in 1985-1987 found no significant relationship between the feeding pattern and source of advice on breastfeeding, similar to our findings.¹⁶ This also means that despite the alarming reports of declining breastfeeding in the Kingdom, the health profession has not had significant success in changing the feeding behaviour of mothers delivered in modern hospitals. Support groups at home (family and relatives) also have not contributed to reversing the trend. The urban populations in Riyadh have reached a low point in breastfeeding. This same population group is expected to take the lead in reverting to breastfeeding when the time comes. At this juncture we recommend two broad interventions:

- (1) targeting specific population groups (newly delivered mothers) in major cities with intensive efforts aimed at enhancing and supporting breastfeeding;
- (2) adopting the 'baby-friendly hospitals initiative' in big cities and gradually spreading it to other smaller cities and towns. Launched by UNICEF in 1990, this initiative has gained momentum in at least 125 countries and territories, to support sound infant-feeding practices.¹⁴

Conclusion

Our study was done on a selected urban well-to-do population in Riyadh. It has shown a declining prevalence of breastfeeding. Population groups in rural areas are following suit, but there is hope for a return to the high prevalence of breastfeeding seen in the 1950s. Almost all the mothers had planned to breastfeed when they were pregnant, but were not able to do so once their babies had been delivered. Our findings support hospital-based interventions. Adoption of the 'baby-friendly hospitals' initiative offers an opportunity for all to contribute towards true progress.

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