

A SURVEY ON BREAST FEEDING IN THE ISLAMIC REPUBLIC OF IRAN §

H. MALEKAFZALI, M.D.* AND E. JAMSHID BEIGI, B.S.**

From the Department of Biostatistics and Epidemiology, School of Public Health, Tehran University of Medical Sciences and the Ministry of Health and Medical Education, Tehran, Islamic Republic of Iran.*

ABSTRACT

In this paper breastfeeding was studied among 10240 urban and 10794 rural mothers, whose children were 18 to 23 months of age. The sample size for rural and urban areas was equal, but in each province the cluster sampling method was used proportional to the population of each district. The results of the study show that between 17% to 28% of urban mothers in the provinces have deprived their children from the minimum period of breastfeeding namely 4 months. The results also show that between 51% to 68% of mothers have breastfed their children for at least one year. The percentage of mothers who have breastfed their children for at least 1.5 years was in the range of 36% to 50%. On the other hand, 11% to 22% of mothers residing in rural areas have never breastfed their children or if so, the period has been less than 4 months. The percentage of mothers who have breastfed their children for at least one year is in the range of 61 to 79 percent. The percentage for mothers who have breastfed their children for 1.5 years is between 47 to 66 percent.

The overall conclusion is that:

- Rural mothers have more willingness to breastfeed their children than urban mothers.
- In all urban areas and in some rural areas, illiterate mothers have a higher percentage of breastfeeding.
- In some rural areas, literate mothers breastfed their sons more than their daughters.

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INTRODUCTION

The Children's Health Campaign Project started from June 25, 1988 with the idea and goal of training mothers in the area of timely vaccination of children, treatment and feeding of patients with diarrhea, breastfeeding of infants until two years of age and finally, timely and accurate utilization of sup-

plementary foods. The campaign continued for three weeks. In this period, children were vaccinated against tetanus and those who had diarrhea were treated with O.R.S. In order to continue training and completion of the immunizations already done, the second phase of the campaign started in the last 15 days of September, and the third phase in the second half of November. In order to evaluate the results of the campaign project, a

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Table I. Frequency distribution (percentage) of children by the length of breastfeeding, sex of the children and literacy of mothers among the children 18-23 months of age in urban areas of the first group provinces*, June 1988.

Literacy of mother & sex of child		Time period of breastfeeding				
		Less than 4 months	4-7 months	8-11 months	12-17 months	18 months & over
Mother literate	** Boys (712)	19	11	6	20	44
	Girls (624)	20	13	6	16	45
	Total (1336)	19	12	6	18	45
Mother illiterate	Boys (686)	15	7	4	15	59
	Girls (659)	14	10	6	19	51
	Total (1345)	15	8	5	17	55
Grand Total	Boys (1398)	17	9	5	18	51
	Girls (1283)	17	11	6	18	48
	Total (2681)	17	10	5	18	50

* Consisted of: Lorestan, Kohgiluyeh & Boyer Ahmad, Chahar Mahal & Bakhtiari, Sistan & Baluchestan and Markazi.

** Figures in the parentheses are the number of samples.

survey was conducted in all provinces in urban and rural areas one week before the first phase of the project began. In this paper, information regarding the mother's behaviour in relation to breastfeeding will be presented. Further information is available in different articles published in the Iranian journal "Drugs and Treatment."^{1,2}

MATERIALS AND METHODS

In each rural and urban areas of the provinces, the mothers of 900 children 12-23 months old were interviewed (100 clusters and 9 mothers in each cluster were selected by systematic sampling proportional to the size of population). The mother was questioned about the vaccination of her child, breastfeeding and feeding the child with supplementary foods, and finally the methods of treatment and feeding the child with diarrhea. In the province of Ilam, due to inaccessibility of people residing in the urban areas in that province

thus the sample size consisted of 23 urban samples and 24 rural samples, altogether 42, 176 children aged 12-23 months.

RESULTS

A. Urban Areas

According to the information gathered relating to the breastfeeding behaviour among urban women, the urban areas could be divided into 3 groups, namely those with high prevalence of breastfeeding, moderate prevalence of breastfeeding and low prevalence of breastfeeding. The results obtained from the study of these three groups are shown in Table I, II and III, respectively.

In the first group provinces which consisted of Lorestan, Kohgiluyeh & Boyer Ahmad, Chahar Mahal & Bakhtiari, Sistan & Baluchestan, Bakhtaran and Markazi provinces, 17% of children are absolutely deprived from breastfeeding or have been breastfed for less than 4 months. The percentage of such children

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Table II. Frequency distribution (percentage) of children by the length of breastfeeding, sex of the children and literacy of mothers among the children 18-23 months of age in urban areas of the second group provinces*, June 1988.

Literacy of mother & sex of child		Time period of breastfeeding				
		Less than 4 months	4-7 months	8-11 months	12-17 months	18 months & over
literate Mother	** Boys (1675)	23	15	5	16	41
	Girls (1523)	24	15	6	18	37
	Total (3198)	23	15	6	17	39
Illiterate Mother	Boys (1130)	20	8	6	15	51
	Girls (960)	20	8	6	15	51
	Total (2090)	20	8	6	15	51
Grand Total	Boys (2805)	22	12	5	16	45
	Girls (2483)	22	12	6	17	43
	Total (5288)	22	12	6	16	44

* Consisted of: Mazandaran, Zanjan, Eas-Azərbayjan, Khorasan, Semnan, Khouzestan, Hamedan, Yazd, Esfahan, Kordestan, Kerman and Hormozgan.

** Figures in the parentheses are the number of samples.

among literate mothers is 19% and is 15% in illiterate mothers ($P < 0.01$).

The above mentioned rate for boys and girls among literate and illiterate mothers is almost the same. In the provinces mentioned above, 68% of mothers breastfed their children for at least one year. This rate among literate and illiterate mothers is 63% and 72% respectively ($P < 0.01$). There is no difference between male and female children. Also, half of the mothers in the mentioned provinces breastfed their children more than 18 months. The rates among literate and illiterate women are 45% and 55% respectively ($P < 0.01$). Among illiterate mothers having sons, the rate is 8 percent higher than mothers with daughters ($P < 0.01$).

The second group consisted of the following provinces: Mazandaran, Zanjan, East-Azərbayjan, Khorasan, Semnan, Khouzestan, Hamedan, Yazd, Esfahan, Kordestan, Kerman and Hormozgan. 22% of mothers breastfed their children less than 4 months or have never breastfed them. This rate is 3% higher

among literate mothers ($p = 0.01$). There is no difference between mothers having boys or girls. In these provinces, 60% of mothers breastfed their children for at least one year. The rates for literate and illiterate mothers are 56% and 66% respectively ($P < 0.01$). No difference has been found between mothers having male and female children. The percentage of mothers who have breastfed their children for at least 18 months is 44%, with 39% & 51% for literate and illiterate mothers respectively ($P < 0.01$). The statistical difference among literate mothers with male and female children is significant ($0.01 < P < 0.05$). There is no significant difference among illiterate mothers in this respect.

Provinces in the third group are Fars, West-Azərbayjan, Gilan, Boushehr and Tehran (excluding the city of Tehran) provinces. In the above mentioned provinces, more than one fourth (28%) of mothers have breastfed their children for less than 4 months or have never breastfed them. The situation for literate

Table III. Frequency distribution (percentage) of children by the length of breastfeeding, sex of the children and literacy of mothers among the children 18-23 months of age in urban areas of the third group Provinces*, June 1988.

Literacy of mother & sex of child		Time period of breastfeeding				
		Less than 4 months	4-7 months	8-11 months	12-17 months	18 months & over
literate Mother	** Boys (729)	29	16	8	14	33
	Girls (648)	27	17	8	14	34
	Total (1377)	28	17	8	14	33
Illiterate Mother	Boys (462)	27	10	6	15	42
	Girls (432)	27	10	4	16	43
	Total (894)	27	10	5	16	42
Grand Total	Boys (1191)	28	14	7	15	36
	Girls (1080)	27	14	7	15	37
	Total (2271)	28	14	7	15	36

* Consisted of: West-Azərbayjan, Gilan, Boushehr and Tehran (the city of Tehran was not surveyed).

** Figures in the parentheses are the number of samples.

and illiterate mothers and also for mothers having sons or daughters is almost equal. 51% of mothers have breastfed their children for at least one year. The rates among literate and illiterates in this group are 47% and 58% respectively ($P < 0.01$). It is equal among mothers of sons or daughters. In these provinces 36 percent of mothers breastfeed their children for more than 18 months. The rate for literate mothers is 33% and that of illiterate mothers, 42% ($P < 0.01$). There is no difference between mothers of sons or daughters in this group.

B. Rural Areas

The information regarding breastfeeding behaviour among rural women is illustrated in Tables IV, V and VI in three groups.

The provinces of the first group are as follows: Ilam, Khorasan, Lorestan, Kohgiluyeh & Boyer Ahmad, Chahar Mahal & Bakhtiari, Sistan & Balouchestan, East-Azərbayjan, Hormozgan and

Markazi. Within this group, 11 percent of mothers breastfeed their children for less than 4 months or have never breastfed them. The rates in this group among literate and illiterate mothers are 13% and 11% respectively. The difference is insignificant statistically. In literate mothers who have daughters, the rate is 7% higher than literate mothers who have sons ($P < 0.01$). In this group (provinces mentioned above), 79% of mothers breastfeed their children for at least one year. The rates for literate and illiterate mothers in this group are 70% and 80% respectively ($P < 0.01$). In both literate and illiterate mothers, no difference has been noted between mothers having sons or daughters. In this group 66% of mothers have breastfed their children for more than 18 months. This rate is 52% among literate mothers and 68% among illiterate mothers ($P < 0.01$). The rate in the literate mothers who have sons is 9% higher than literate mothers who have daughters ($0.01 < P < 0.05$).

Provinces in the second group consist of Bakhtaran, Kerman, Semnan, Zanjan, Fars, Mazandaran, Hame-

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Table IV. Frequency distribution (percentage) of children by the length of breastfeeding, sex of the children and literacy of mothers among the children 18-23 months of age in rural areas of the first group provinces*, June 1988.

Literacy of mother & sex of child		Time period of breastfeeding				
		Less than 4 months	4-7 months	8-11 months	12-17 months	18 months & over
literate Mother	** Boys (349).	10	12	6	16	56
	Girls (310)	17	11	4	21	47
	Total (659)	13	12	5	18	52
Illiterate Mother	Boys (1756)	11	6	3	12	68
	Girls (1651)	10	5	4	13	68
	Total (3407)	11	5	4	12	68
Grand Total	Boys (2105)	11	7	3	13	66
	Girls (1961)	11	6	4	14	65
	Total (4066)	11	6	4	13	66

* Consisted of: Ilam, Khorasan, Lorestan, Kohgiluyeh & Boyer Ahmad, Markazi, Chaharmahal & Bakhtiari, Sistan & Baluchestan, East-Azarbaijan and Hormozgan.

** Figures in the parentheses are the number of samples.

dan, Khouzestan and Kordestan provinces. In this group, 17% of mothers have not breastfed their children or have breastfed them for less than 4 months. The rates among literate mothers is 19% and illiterate mothers 17 percent, but the statistical difference is insignificant. Literate and illiterate mothers have not made any exceptions between male and female children as far as breastfeeding is concerned. In this group (provinces mentioned), 71% of mothers have breastfed their children for at least one year. The rate among literate mothers is 65% and among illiterate mothers 72% ($P < 0.01$), but there is no difference between mothers having sons and mothers having daughters in this regard. In this group 57% of mothers have breastfed their children for at least 18 months, comprising 50% of literate mothers and 59% of illiterate mothers ($P < 0.01$), but again with no difference between mothers having sons and mothers having daughters.

The third group consisted of the following provinces: West-Azarbaijan, Esfahan, Boushehr, Gilan

and Tehran. In this group 22% of mothers have either never breastfed their children or have breastfed them for less than 4 months. No difference was found between literate and illiterate mothers or mothers with male children and female children. In this group 61% of mothers have breastfed their children for at least one year. There is no significant difference between literates and illiterates. But the percentage of literate mothers having sons was more than literate mothers with daughters ($P < 0.01$). No difference was found in illiterate mothers having sons or daughters. In this group, mothers who have breastfed their children for more than 18 months comprised 47 percent. There was no significant difference between literate and illiterate mothers, but the rate for literate mothers of sons was higher than literate mothers who had daughters ($P < 0.01$).

Table V. Frequency distribution (percentage) of children by the length of breastfeeding, sex of the children and literacy of mothers among the children 18-23 months of age in rural areas of the second provinces,* June 1988.

Literacy of mother & sex of child		Time period of breastfeeding				
		Less than 4 months	4-7 months	8-11 months	12-17 months	18 months & over
literate Mother	** Boys (526)	21	9	5	15	50
	Girls (475)	17	11	7	15	50
	Total (1001)	19	10	6	15	50
Illiterate Mother	Boys (1613)	16	8	4	12	60
	Girls (1495)		7	4	15	57
	Total (3108)	17	7	4	13	59
Grand Total	Boys (2139)	17	8	4	13	58
	Girls (1970)	17	8	5	15	55
	Total (4109)	17	8	4	14	57

* Consisted of: Bakhtaran, Kerman, Semnan, Zanjan, Fars, Mazandaran, Hamedan, Khouzesan and Kordestan.

** Figures in the parentheses are the number of samples.

DISCUSSION

Little information is available with respect to breastfeeding and its duration in Iran. Frozzani, et al³ have found that 94% of mothers attending a health center in Isfahan started breast-feeding at birth, and 65% continued it after three months, 41% after six, 24% after nine, 15% after twelve, 10% after fifteen, 2% after eighteen and none after twenty-four months; about 96% of these mothers refused to breast-feed their babies because of insufficient secretion of breast milk.

Figure 1 depicts comprehensive information about initial breast-feeding and its median duration for selected developing countries.⁴ Iran's overall initial breast-feeding in this survey was 95% and its median around 18 months; thus Iran's location on the scale of figure 1 is similar to that of its neighbor Pakistan, which seems reasonable.

The following conclusion may be taken for breast-feeding behaviour among urban women:

1. In all urban areas, literate mothers have deprived their children from breastfeeding more than illiterate mothers. (In provinces such as Fars, West-Azərbayjan, Gilan, Boushehr and Tehran, both groups have had this character equally, but the rate is too high at 28 percent).

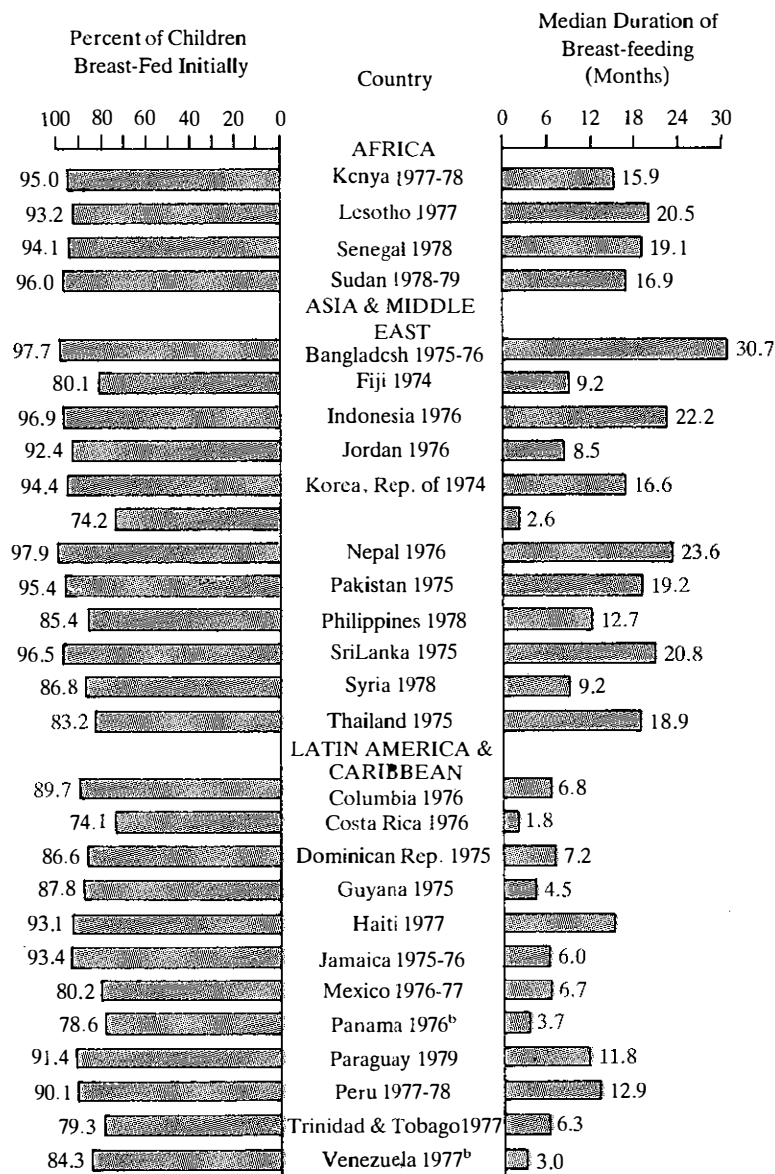
2. In all urban areas, illiterate mothers breastfeed their children longer than literate mothers.

3. It could be said generally, that the sex of infants was not an effective factor in decision making for breast-feeding behaviour among urban mothers.

The following conclusions have been drawn from the study of breastfeeding behaviour in mothers in rural areas:

1. Fortunately, literacy has no effect on depriving the child from breastfeeding in rural areas. This trend is similar in all three groups of provinces.

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^aFor children born in the five years preceding the survey

^bWomen age 20-49

While the percentage of children initially breast-fed is high in all 28 developing countries reporting World Fertility Survey data (left side of graph), the median duration of breast-feeding varies considerably, ranging from over 30 months in Bangladesh to less than two months in Costa Rica (right side of graph).

Figure 1. Percentage of Children Breast-Fed Initially and Duration of Breast-Feeding in 28 Developing Countries, World Fertility Survey Data

2. In all rural areas nationwide, excluding Yazd, West-Azarbayjan, Esfahan, Boushehr, Gilan and Tehran, illiterate mothers breastfed their children more than literate mothers. In the six provinces mentioned above, this trend of breastfeeding among literate and illiterate mothers is the same but lower than the other provinces.

3. In rural literate mothers in the first and third groups, cases of discrimination in breastfeeding period between boys and girls have been noted to the benefit of male children.

Taking into consideration the above conclusions, the following points are recommended:

Table VI. Frequency distribution (percentage) of children by the length of breastfeeding, sex of the children and literacy of mothers among the children 18-23 months of age in rural areas of the third group provinces*, June 1988.

Literacy of mother & sex of child		Time period of breastfeeding				
		Less than 4 months	4-7 months	8-11 months	12-17 months	18 months & over
literate Mother	** Boys (533)	21	11	5	13	50
	Girls (444)	21	15	10	13	41
	Total (977)	21	13	7	13	46
Illiterate Mother	Boys (819)	25	10	3	13	49
	Girls (823)	22	12	4	15	47
	Total (1642)	23	11	4	14	48
Grand Total	Boys (1532)	23	11	4	13	49
	Girls (1267)	22	13	6	14	45
	Total (2619)	22	12	5	14	47

* Consisted of: Yazd, West-Azarbayjan, Esfahan, Boushehr, Gilan and Tehran.

** Figures in the parentheses are the number of samples.

1. A mass training program for urban mothers and for literate mothers in particular who are residing in the second and third provincial groups should be adopted.

2. Another survey in rural and urban areas of West-Azarbayjan, Gilan, Boushehr and Tehran should be conducted, to find out the reasons of low percentage of breastfeeding in those four provinces, in order to adopt a suitable training program for the provinces concerned.

3. In the context of training programs for literate mothers, sending pamphlets, publishing scientific articles in the press, adding materials describing the advantages of breastfeeding in school textbooks and probably passing laws to facilitate working hours of nursing mothers, should be taken into consideration.

4. Health houses should remove the discrimination existing in the length of breastfeeding between infant

boys and girls by training the mothers. The important point is that if girls are not adequately educated when they are still small, they will confront serious problems in the future because of marriage and childbearing.

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