# The reasons for early weaning among mothers in Teheran

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*In order to identify the reasons for early weaning in Tehran, we interviewed 900 mothers using a systematic randomized sampling method. A total of 15% of the mothers were illiterate, 93% were housewives, and 97% had given birth in hospitals. Only 3% of the newborns benefited from rooming-in facilities in hospital, and 68% were bottle-fed while still in hospital. In 3.1% of cases the mother had not breast-fed her newborn at all. Of those who had breast-fed their infant, 38% used only their own milk, whereas 62% used a combination of breast milk and infant formula. The median duration of breast-feeding was 16 months (mean, 14 months). A total of 74% of mothers who used supplementary formula and 39% of those who had completely stopped breast-feeding blamed milk insufficiency, although 67% of these mothers had reached this conclusion only because their infants cried or were irritable.*

*The following factors had a negative influence on the duration of breast-feeding: use of supplementary formula and of estrogen-containing oral contraceptives; fathers with high incomes; and mothers with a high educational level. In contrast, the mother's religious motive to breast-feed and her insistence on breast-feeding had a positive impact. Unfortunately, 21% of the mothers started using supplementary formula during the first month postpartum, and two-thirds before the end of the fourth month. Every month that bottle-feeding was started prematurely shortened the duration of breast-feeding by 20 days. On average breast-feeding was initiated 42.5 hours postpartum, and for more than 70% of mothers who breast-fed, 20 hours or more after delivery.*

## Introduction

In developing countries, including the Islamic Republic of Iran, the under-5-year-old mortality rate is high, mainly because of deaths from acute respiratory infections, diarrhoeal diseases, and malnutrition.[a]

Since it is the best source of nutrition for infants, breast milk is effective in ensuring their optimal rate of growth (*1*) and development (*2*), while breast-feeding also satisfies the psychological needs of the mother and her child. Moreover, breast-feeding reduces the incidence of various conditions, particularly malnutrition (*3*), allergies (*1, 4*), and infections of the gastrointestinal and respiratory tracts (*1, 5–7, 16*). Breast-feeding is also cheap and regulates child-spacing (*8–10*).[b]

These advantages of breast-feeding have an enormous effect on promoting the health of newborns, infants, and children (*11*).[c] Unfortunately, however, there are still a very large number of mothers who stop breast-feeding too early and use infant formula and other substitutes.[c, d] If the reasons for not breast-feeding and early weaning can be identified, steps can be taken to rectify the situation. This will in turn decrease the incidence of gastrointestinal and respiratory tract infections, reduce the infant mortality rate, and improve child-spacing.

For this purpose, we carried out a study to investigate why mothers in Teheran wean their children early.

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[a] *Situation analysis of children and women in the Islamic Republic of Iran.* Teheran, Ministry of Health and Medical Education/UNICEF, 1990.

Reprint No. **5415**

[b] *Breast-feeding and child spacing: what health workers need to know.* Unpublished document WHO/MCH/FP/88.1.

[c] *Breast-feeding in the 1990s: review and implications for a global strategy.* Unpublished document WHO/MCH/NUT/90.2.

[d] *Infant and young child nutrition (progress and evaluation report; and status of implementation of the International Code of Marketing of Breast-milk Substitutes). Report by the Director-General.* WHO document WHA43/1990/REC/1, Annex 1.

## Methodology

The study was conducted from 20 January 1990 to 20 February 1990. A total of 900 mothers who had a 24–30-month-old child and who lived in one of the 20 municipal districts of Teheran were interviewed. To select the study sample, we obtained the addresses of all women who had given birth over a 24-hour period in public and private hospitals. In Teheran, nearly 97% of deliveries take place in hospitals and the number of births in each district is practically in proportion to its population. Therefore the distribution of the addresses of the pregnant women selected was approximately the same as that of the population in the different districts of Teheran. A total of 403 deliveries occurred in Teheran during the chosen 24-hour period. We selected 39 clusters and interviewed 10 mothers from each cluster. One out of every four addresses was systematically chosen as the starting point. A search was then made from that address throughout the neighbourhood until 10 mothers with 24–30-month-old children were interviewed in each cluster.

The interviewers were skilled family health workers, who were experienced in this kind of study. A pilot study was carried out on 20 mothers, and after some changes had been made to the questionnaire the survey proper was carried out by 32 interviewers, six supervisors, and a director. The questionnaire was divided into three parts as outlined below.

- Part 1. General information about the mother and her husband, including the mother's age, place of birth, native language, the length of time she had lived in Teheran, her education level, her job as well as that of her husband, and his education level.
- Part 2. Information about the child; for example, date of birth, birth weight, sex, birth order, the interval between the child's date of birth and that of the elder sibling, place of birth, and type of delivery.
- Part 3. Information about the reasons for stopping breast-feeding, based on the following:

— Duration of breast-feeding: the number of months during which the child was breast-fed (with or without supplementary milk or food).
— Early discontinuation of breast-feeding: complete cessation of breast-feeding before the child was 2 years of age.
— Postpartum amenorrhoea: the length of time between delivery and the first menstruation.
— Use of supplementary milk: use of any kind of milk other than breast milk (including infant formula and cow's milk).
— The mother's advisers: identification of the individuals who advised mothers to continue or to discontinue breast-feeding.
— Rooming-in facilities at the delivery hospital.

After the questionnaires had been completed, they were checked, coded, and the data analysed on a computer using SPSS software.

## Results

### *Characteristics of the mothers*

Approximately 50% of the study mothers were born in Teheran, and 13% were from East Azerbaijan. The native language of 30% of the mothers was Turkish, while the rest spoke mainly Farsi, although a small proportion spoke other languages.

A total of 76% of the mothers were 20–35 years of age, i.e., almost a quarter were aged <20 years or >35 years, which presents risks for both mother and child (*5*).

All in all, 90% of the mothers had been living in Teheran for over 5 years, while 57% had lived there for over 20 years. A total of 15% were illiterate, 32% had received an elementary school education, 25% had attended junior high school and high school, 24% had diplomas, and 4% had received a university education; the respective level of education of their husbands was 8%, 30%, 23%, 28%, and 11%.

Most of the mothers (93%) were housewives, 6% were office employees, and 1% had other occupations. Of their husbands, 36% were office employees, 36% were workers (skilled or unskilled), 23% were self-employed, and the rest had other occupations.

### *Characteristics of the children*

The proportion of newborns who weighed less than 2500 g at birth was 7.3%. A total of 27% were first-born and 16% were fifth-born or more. For 1.3% of the cases, the interval between their date of birth and that of their elder sibling was less than 1 year, for 21% less than 2 years, and for 61% less than 3 years.

The proportion of children born in public hospitals was 61%, 36% were born in private hospitals, and the rest at home.

A total of 56% of the mothers stayed at hospital for 24 hours or less postpartum.

The majority of deliveries (81%) were normal, 17% were by Caesarean section, and 2% were other types of abnormal deliveries. Only 3% of the newborns were brought to the mothers' rooms and kept there shortly after birth—4.4% in public and 0.6% in private hospitals.

### *Breast-feeding behaviour*

For 68% of cases, formula feeding was started in the hospital (60% in public and 80% in private hospi-

tals). In only 6% of cases was the infant breast-fed within 5 hours of birth, whereas in 72% of cases there was an interval of at least 20 hours.

A total of 62% of the mothers used supplementary formula, while 38% of them breast-fed only.

Table 1 shows the distribution of the children according to the duration of breast-feeding. About 3% of the infants did not receive any breast milk, the principal reasons given by the mothers for this being as follows: mother's illness, breast milk insufficiency, and refusal of the child to breast-feed. A total of 29% of the children did not even receive breast milk for 6 months. Of those children who did start to breast-feed, 26.5% did not receive breast milk for 6 months. Breast-feeding was continued for 2 years or more for 27% of the children. The median duration of breast-feeding was 16 months (mean, 14 months; standard deviation, 9.2 months).

Table 2 shows the distribution of the infants' ages when formula was started for the 62% (557 out of 900) of the children who received supplementary formula in addition to breast milk.

The probability of starting supplementary milk during the first month postpartum was very high (21%). If, however, physicians and health workers counsel mothers properly to continue breast-feeding throughout the first month postpartum, the probability of starting to bottle-feed during the second and third months will greatly decrease. The high percentage of mothers who were bottle-feeding at 6 months may have arisen because health workers informed them that breast milk was insufficient after 6 months and that it was necessary to use complementary foods at this age.

Table 1: **Distribution of study children, according to the duration of breast-feeding, Teheran, 1989**

| Length of breast-feeding (months) | No. of children | % relative to total number of children | % relative to breast-fed children |
|---|---|---|---|
| Never | 28 | 3.1 (3.1)[a] | – – |
| <1 | 32 | 3.6 (6.7) | 3.7 (3.7) |
| 1–2 | 75 | 8.3 (15) | 8.6 (12.3) |
| 3–5 | 124 | 13.8 (28.8) | 14.2 (26.5) |
| 6–8 | 66 | 7.3 (36.1) | 7.6 (34.1) |
| 9–11 | 39 | 4.3 (40.4) | 4.5 (38.6) |
| 12–17 | 102 | 11.3 (51.7) | 11.7 (50.3) |
| 18–23 | 193 | 21.4 (73.2) | 22.1 (72.4) |
| 24–25 | 153 | 17.0 (90.2) | 17.5 (89.9) |
| ≥25 | 88 | 9.8 (100) | 10.1 (100) |
| Total | 900 | 100 – | 100 – |

[a] Figures in parentheses are the cumulative percentages.

Table 2: **Distribution of ages of the study children when supplementary formula was started, Teheran, 1989**

| Age when formula was started (months) | No. of children | % of children | % probability[a] |
|---|---|---|---|
| <1 | 115 | 21 (21)[b] | 21 |
| 1 | 58 | 10 (31) | 13 |
| 2 | 61 | 11 (42) | 16 |
| 3 | 69 | 12 (54) | 21 |
| 4 | 62 | 11 (65.1) | 24 |
| 5 | 40 | 7 (72.1) | 21 |
| 6 | 49 | 9 (81.1) | 32 |
| 7 | 17 | 3 (84.1) | 17 |
| 8 | 19 | 3.4 (87.5) | 22 |
| 9 | 10 | 2 (89.5) | 15 |
| 10 | 2 | 0.5 (90) | 4 |
| 11 | 4 | 1 (91) | 7 |
| ≥12 | 51 | 9 (100) | 100 |
| Total | 557 | 100 – | – |

[a] Percentage probability of starting formula for infants breast-fed up to the age shown in the first column.

[b] Figures in parentheses are the cumulative percentages.

Milk insufficiency was cited by 74% of the mothers as the reason for starting to bottle-feed. Other reasons, e.g., medical advice, illness of the mother or of the child, and pregnancy, were each mentioned by about 5% of the mothers interviewed.

Table 3 shows the various reasons given by the mothers for discontinuing to breast-feed their children under 2 years of age.

The most frequent reason mentioned by the mothers was milk insufficiency (39% of cases). This

Table 3: **Distribution of reasons given by the mothers for discontinuing to breast-feed their children under 2 years of age**

| Reason | No. of children | Mean duration (± S.D.) of breast-feeding (months) |
|---|---|---|
| Separation of mother and child | 10 (1.5)[a] | 5.9 ± 7.3 |
| Child too old | 53 (8.2) | 20.3 ± 3.3 |
| Mother became pregnant again | 111 (17) | 13.4 ± 4.9 |
| Mother's occupation | 8 (1.2) | 8.9 ± 4.9 |
| Mother's illness | 70 (10.7) | 12.3 ± 7.6 |
| Child's illness | 25 (3.8) | 8.1 ± 7.3 |
| Milk insufficiency | 254 (39) | 6.7 ± 5.9 |
| To help the child to eat solid foods | 45 (6.9) | 11.3 ± 7.9 |
| Physician's advice | 9 (1.4) | 10.7 ± 8.3 |
| Others | 67 (10.3) | 11.3 ± 7.5 |
| Total | 652 (100) | 10.5 ± 7.4 |

[a] Figures in parentheses are percentages.

is especially important, since the mean duration of breast-feeding among these mothers was only about 7 months. Other important reasons mentioned were pregnancy, mother's illness, and the desire to help the child take solid foods.

Those mothers who stopped breast-feeding because of milk insufficiency were asked how they knew that their milk was inadequate. In reply, 67% stated that their children cried and were irritable, while 18% stated that they had gauged this by expressing their milk. Only 2% of the mothers had reached this conclusion on the basis of the lack of weight gain of their child.

The same women were asked to list the factors that played a role in reducing the amount of breast milk. A total of 43% said that they had no idea, 24% cited anxiety, 15% blamed taking medicine, while 11% believed that physical weakness was the cause.

When asked what measures they had taken to increase their supply of milk, 52% said that they had done nothing, 42% that they had increased their intake of liquids and rest time, and 5% had consulted physicians.

All 900 mothers were asked whether breast milk or infant formula is better. The vast majority (96%) answered that breast milk is better for the child's growth, while the remaining 4% responded that formula is equal to or better than breast milk. As their main source of knowledge and information about breast-feeding, 45% of the mothers cited relatives and friends, 27% named radio and television, while 12% mentioned books, magazines, and newspapers. Only 4% mentioned physicians and health workers.

Oral contraceptives were used by 22% of the mothers during the breast-feeding period. A third of the mothers started taking the contraceptives during the first month postpartum, another third started between the second and the twelfth month, while the rest started taking them after 12 months.

A total of 52% of the mothers stated that they were determined to breast-feed their children, 45% that they had a desire to breast-feed, and 3% were indifferent.

Table 4 shows the responses of the 840 mothers who had breast-fed their children for at least 1 month when questioned about their motives for breast-feeding.

Mothers were also asked to state on whose advice they had stopped breast-feeding their children. In two-thirds of cases the mothers had stopped breast-feeding on their own initiative, while 16% had stopped on the basis of their physician's advice.

A regression analysis of the relationship between the duration of breast-feeding was carried out for the main variables, defined as follows.

Table 4: **Distribution of the main motives of the study mothers who breast-fed their children for at least 1 month**

| Main motive | No. of mothers |
|---|---|
| Religious | 44 (5.2) [a] |
| Economic | 38 (4.5) |
| Affection | 88 (10.5) |
| Superior quality of breast milk | 496 (59.0) |
| Convenience | 160 (19.0) |
| Others | 8 (0.9) |
| Unknown | 6 (0.7) |
| Total | 840 (100) |

[a] Figures in parentheses are percentages.

$Y$: the duration of breast-feeding in months.

$X_1$: mother's age in years.

$X_2$: mother's educational level; 0 = illiterate and 1 = literate mothers.

$X_3$: mother's occupation; 0 = housewife and 1 = those employed outside the home.

$X_4$: husband's occupation; 0 = low-income and 1 = high-income professions.

$X_5$: use of oral contraceptives during the breast-feeding period; 0 = no such use and 1 = use.

$X_6$: birth order of the child.

$X_7$: birth interval between the child and the elder sibling (in months).

$X_8$: type of delivery; 1 = natural delivery and 0 = others.

$X_9$: number of hours between delivery and the first breast-feeding episode.

$X_{10}$: use of supplementary formula, with 0 = non-use and 1 = use.

$X_{11}$: mother's insistence on breast-feeding.

$X_{12}$: mother's main motive in breast-feeding, defined here using the three dummy variables $D_1$, $D_2$, and $D_3$.[e]

By using a regression analysis and including only those variables that are significant at the 0.05 level, the following relationship was obtained be-

[e] $D_1$, $D_2$, and $D_3$ were defined as follows:

| | $D_1$ | $D_2$ | $D_3$ |
|---|---|---|---|
| Mother's motive, religious | 1 | 0 | 0 |
| Mother's motive, economic | 0 | 1 | 0 |
| Mother's motive, affectional | 0 | 0 | 1 |
| Other motives | 0 | 0 | 0 |

tween the duration of breast-feeding for children other than the first-born, including the interval between the birth of a child and the elder sibling:

$$Y = 22.20 - 9.54X_{10} + 2.98X_{11} - 3.16X_6 - 2.39X_5 + 3.42X_{12} - 1.26X_4 \quad (1)$$

This indicates that each of the six variables in equation (1) has an independent effect on the duration of breast-feeding. Mothers who had high educational levels, husbands who had well-paid occupations, and use of supplementary formula and of oral contraceptives were negatively related to the duration of breast-feeding, i.e., they are effective in shortening this period. In contrast, the other two factors—mothers who insisted on breast-feeding and religous motivation—had a direct positive relationship on the duration.

In order to include all the children in the study of the duration of breast-feeding and its relationship to all of the above-mentioned variables, we included all first-born children and used birth order instead of the birth interval between these children and their elder siblings. In this case the regression analysis yields the following relationship:

$$Y = 20.46 - 9.86X_{10} + 3.14X_{11} - 2.52X_2 - 1.83X_5 + 2.99X_{12} - 0.97X_4 + 0.30X_6 \quad (2)$$

Therefore in addition to the six variables in equation (1), birth order is also independently correlated with the duration of breast-feeding, such that as birth order increases so does the duration of breast-feeding.

In view of the detrimental effect on infants of using supplementary formula, we carried out a separate regression analysis only for those children who had received this. In this case, the age at which the supplementary formula was started was used instead of use of supplementary formula ($X_{10}$) as a quantitative variable in the analysis. This resulted in the following relationship:

$$Y = 6.05 + 0.71X_{10} + 2.14X_{11} - 4.35X_2 - 3.91X_5 + 2.36X_4 \quad (3)$$

Hence, even if the other variables are held constant, the age at which supplementary formula was started had a direct effect on the length of breast-feeding—the later the age at which the formula was started, the longer breast-feeding was continued. Mothers who insisted on breast-feeding and who had religous motivation had a positive effect on the duration of breast-feeding; however, mother's educational level and use of oral contraceptives had negative effects.

## Discussion

### *Breast-feeding behaviour*

Our findings are very similar to those in other countries.[f] The mean duration of breast-feeding was 14 months and the median, 16 months. Africa and Asia have the highest rate of breast-feeding—especially for longer than 3 months—and the USA has the lowest. The mean duration of breast-feeding ranges from 3 to 25 months in countries in the Eastern Mediterranean region, 6 to 19 months in South-East Asia, and 14 to 24 months in Africa. These compare with 1–19 months in the Americas and 2–9 months in Europe.

The range of the median values for the duration of breast-feeding is greatest in Eastern Mediterranean countries (4–24 months). The median is 7.1 months in Canada, 9 months in Jamaica, 18 months in Brazil, and 15 months in Indonesia.

Although there is still a high rate of breast-feeding in developing countries, it is falling among the poorer residents; in contrast, there has been a steady rise in the rate of breast-feeding over the past 30 years in industrial countries. Studies in Norway, Scotland, Canada, the USA, and Australia indicate that there has been an increase in the rate of breast-feeding among educated mothers in the middle and higher socioeconomic classes. In developing countries, however, the higher rates and longer duration of breast-feeding are observed in rural and poor urban areas.

While exclusive breast-feeding is being replaced by a combination of breast milk and infant formula in many areas, including the Eastern Mediterranean, over the past 5 years in China there has been a considerable increase in both exclusive breast-feeding and also in combined breast- and bottle-feeding; at the same time there has been a 25% decrease in exclusive bottle-feeding. Our study also indicates that, compared with the feeding practices used for elder siblings, there is now a greater tendency to combine breast- and bottle-feeding.

Most studies have reported similar responses by mothers to questions about why they stopped breast-feeding. For example, in one study in China in 1989 about 67% of the mothers stopped breast-feeding or started bottle-feeding during the first 4 months because they thought their milk was inadequate. It is important to remember that a mother who feels that her milk is insufficient may not mean that it is so.

The proportion of mothers who have not breast-fed their child at all has been found to be 6–10% in

[f] See footnote *d*, p. 561.

Indonesia and 14% in Shanghai; this proportion was 3.1% in Teheran.

The present study shows that the use of infant formula is an important factor that is negatively related to the duration of breast-feeding. A prospective study carried out in Canada reported a firm relationship between the length of breast-feeding and the non-use of supplementary formula both at hospital and later at home (*20*).

Studies carried out in Brazil, China, and Indonesia indicate that the principal factor that shortens the length of breast-feeding is the lack of encouragement and support by the health systems. Inappropriate practices at hospital can considerably discourage mothers from breast-feeding. Some examples of such practices are as follows:

— delaying the first breast-feeding session;
— bringing the neonate for breast-feeding during the day only, which may lead to an interval of 12 hours or more between breast-feeding episodes at nights; and
— bottle-feeding the infant and, in general, not implementing rooming-in regulations.

The breast-feeding behaviour of the mothers in Teheran was also influenced by the following factors:

— on the average, the child was breast-fed for the first time 42.5 hours after delivery; and
— 68% of the neonates were bottle-fed while still in hospital.

### *Rooming-in*

Rooming-in, which facilitates an early start and a continuation of breast-feeding (*17–19*), was only implemented in 5% of public maternity wards in Teheran and hardly at all in private wards (1%). Apparently, the major reasons for failing to provide such facilities are the hospital personnels' ignorance and their concern about the associated managerial problems.

Establishing educational workshops for the staff of private and public maternity wards would increase these proportions considerably.

### *Bottle-feeding*

Two-thirds of the infants in our study were bottle-fed at hospital: 80% in private and 60% in public hospitals. The length of breast-feeding was negatively related to the introduction of infant formula.

Only 6% of the children were breast-fed during the first 5 hours of life, while more than 70% had their first breast-feed 20 hours or more postpartum. To improve this situation, rooming-in practices should be promoted; also, maternity-ward personnel should be trained to initiate breast-feeding immediately after birth, to help the mothers breast-feed on-demand, both during the day and at night, and to instruct mothers about the necessity of avoiding infant formula, as well as the use of water, sugar-water, feeding bottles, pacifiers, etc., in maternity wards and nurseries.

### *Supplementary formula*

Only 38% of the mothers never used supplementary formula, i.e., 62% started bottle-feeding sooner or later. Even this proportion is less than the rate of bottle-feeding in the hospitals studied.

A total of 21% of the mothers who bottle-fed their children started this during the first month, while 66% of them started at some time during the first 4 months. Therefore, two-thirds of the mothers deprived their children partly or entirely of breast milk at the very time when it should be the child's only nutrient. To change this situation requires a greater emphasis to be placed in medical education on the importance of nutrition, particularly that of breast-feeding. Physicians and other health workers need to be informed about the benefits and advantages of breast-feeding as well as about the art and technique of breast-feeding. Also mothers should be instructed to give their infants nothing but breast milk for the first 4 months (preferably 6 months), when appropriate solid foods can be started, and then to continue breast-feeding and giving their children solids until the end of the second year.

### *Reasons for stopping breast-feeding*

Two-thirds of the mothers gave the following reasons for stopping breast-feeding their children: milk insufficiency (39%); mother's illness (11%); and pregnancy (17%). However, none of these reasons should be allowed to become the cause of early weaning. Three-quarters of the mothers who decided that their milk was insufficient did so only because their children were irritable and cried, and not on the basis of weight gain and growth monitoring evidence. Also, the mothers themselves concluded that they were too ill to breast-feed, without consulting their physicians. It is important to note that early pregnancy after delivery, which endangers the life of both mother and child, is easily preventable.

Every child should have a growth chart and every mother should be instructed to monitor correctly her child's growth. Mothers should also be taught how to increase their milk production and promote child growth and development. Furthermore, they should be advised not to become pregnant until their child is at least 3 years old.

### *Use of oral contraceptives*

The proportion of breast-feeding mothers who used oral contraceptives, especially those containing estrogen, was relatively high. Mothers and health workers should therefore be instructed about other contraceptive methods. Exclusive breast-feeding, along with frequent day and night feeds, is, by itself, an effective contraceptive in 98% of cases during the first 6 months postpartum, provided menstruation has not re-started.

### *Duration of breast-feeding*

Regression analysis showed that the following factors had a relationship with the duration of breast-feeding:

— use or avoidance of supplementary formula;
— mother's insistence on or indifference towards breast-feeding;
— mother's educational level;
— use or avoidance of oral contraceptives during the breast-feeding period;
— presence or lack of a religious motive on the mother's part;
— husband's occupation; and
— the child's birth order.

The duration of breast-feeding was shortened by the following factors: use of supplementary formula and estrogen-containing oral contraceptives; mothers who had had a higher education; and husbands who had well-paid jobs. In contrast, the length of breast-feeding was increased by the following: mothers who insisted on breast-feeding; mothers who had a religious motivation to breast-feed; and higher birth orders.

Use of supplementary milk had the greatest detrimental effect on the duration of breast-feeding. Our study shows that the sooner supplementary formula was started the shorter was the length of breast-feeding. Even if the other factors remained constant, the mean length of breast-feeding was shortened by 20 days for every month that supplementary formula was started prematurely.

## Recommendations

The following recommendations can be made in view of our findings.

- In the curricula of medical and other health-related schools greater emphasis should be placed on nutrition, in general, and breast-feeding, in particular. Training should include both the scientific and practical aspects of breast-feeding, and these should be emphasized in continuing medical education.
- There is a need for widespread and serious public health education efforts through the mass media (especially radio and television), by religious leaders and clergymen, as well as through textbooks and face-to-face encounters, especially during antenatal and immediate postpartum care. Such efforts should also provide information on how to prevent a decrease in the amount of breast milk (even when mother and child are separated) and how to increase the volume whenever necessary.
- Mothers should start to breast-feed immediately after birth or at most within half-an-hour of delivery, and then feed on-demand and not according to a timetable.
- Use of supplementary formula, and even water, sugar-water or any other nutrient during the first 1–6 months of life should be avoided, except for specific and limited medical reasons.
- Mothers should be forbidden to use feeding bottles, pacifiers, etc.
- Rooming-in facilities should be provided in delivery hospitals.
- Growth charts should be used for all children, and mothers should be given instruction on their use and also growth monitoring.
- Breast-feeding mothers should be supported by their husbands, family members, and the community. Also, supportive groups should be set up to promote, protect and support breast-feeding, as well as to give the necessary information to breast-feeding mothers.
- Legislation and regulations should be passed to support women, in general, and, in particular, breast-feeding mothers in employment.
- Mothers who breast-feed should be advised not to become pregnant until their child is at least 3 years old. The use of estrogen-containing oral contraceptives should be discouraged for breast-feeding mothers because such substances can reduce both the quantity and quality of breast milk.


## Résumé

### Les raisons du sevrage précoce chez les mères de Téhéran

Afin de découvrir les raisons du sevrage précoce à Téhéran, nous avons interrogé 900 mères, choisies selon un plan d'échantillonnage randomisé systématique. Au total, 15% d'entre elles étaient illettrées, 93% étaient sans profession et 97% avaient accouché à l'hôpital. Seulement 3% des nouveau-nés avaient été placés dans la chambre de leur mère et 68% avaient été nourris au bibe-

ron avant de quitter l'hôpital. Dans 3,1% des cas, la mère n'avait jamais allaité son enfant. Parmi les autres, 38% avaient nourri leur enfant exclusivement au sein, tandis que 62% avaient utilisé également des préparations pour bébés. La durée médiane de l'allaitement au sein était de 16 mois (moyenne, 14 mois). Au total, 74% des mères qui avaient utilisé des préparations pour bébés en complément de l'allaitement au sein et 39% de celles qui avaient complètement cessé d'allaiter ont déclaré qu'elles n'avaient pas suffisamment de lait, mais 67% d'entre elles sont arrivées à cette conclusion simplement parce que leur enfant pleurait ou se montrait irritable.

Les facteurs suivants ont eu une influence négative sur la durée de l'allaitement au sein: utilisation concomitante de préparations pour bébés; prise de contraceptifs oraux contenant des oestrogènes; revenu élevé du père; niveau d'instruction de la mère élevé. Par contre, la motivation de la mère, pour des raisons religieuses ou personnelles, a eu un effet positif. Malheureusement, 21% des mères ont commencé à utiliser des préparations pour bébés au cours du premier mois du post-partum et les deux tiers avant la fin du quatrième mois. Chaque mois d'utilisation prématurée de ces préparations a raccourci la durée de l'allaitement de 20 jours. L'allaitement au sein a débuté 42,5 heures en moyenne après la naissance, et dans plus de 70% des cas, 20 heures ou plus après la naissance.

Les principales recommandations proposées pour renverser cette tendance peuvent être résumées ainsi:

- un vaste effort d'éducation du public devrait être entrepris pour faire connaître les avantages de l'allaitement au sein;
- les mères devraient commencer à allaiter immédiatement après la naissance;
- le recours à des préparations pour bébés comme complément de l'allaitement au sein devrait être évité;
- les mères ne devraient pas utiliser de biberon ni donner de sucette à leur bébé;
- des chambres devraient être prévues dans les maternités pour les mères et leur enfants;
- des fiches de croissance devraient être remises à toutes les mères et celles-ci devraient apprendre à surveiller la croissance de leur enfant;
- les mères allaitantes devraient recevoir un appui suffisant de la part de leur famille et de la communauté;
- une législation en faveur des mères allaitantes devrait être adoptée;
- il faudrait conseiller aux mères allaitantes d'éviter une nouvelle grossesse tant que leur enfant n'a pas atteint l'âge de trois ans et de ne pas utiliser de contraceptifs oraux contenant des oestrogènes.

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