

## BREAST-FEEDING PRACTICES IN TRINIDAD<sup>1</sup>

M. Gueri,<sup>2</sup> P. Jutsum,<sup>3</sup> and R. Hoyte<sup>4</sup>

*A study of breast-feeding practices in Trinidad indicates that despite the evident advantages of breast-feeding, early abandonment of the practice is widespread. Within some four months of delivery nearly half the infants in the study group had been completely weaned from the breast. A significant association was found between early bottle-feeding (before the first breast-feeding session) and early termination of breast-feeding.*

### Introduction

Available evidence indicates that throughout the Caribbean Area complete reliance on breast-feeding is confined to the first few weeks of a baby's life, because in the great majority of cases it is soon "supplemented" with artificial feeding of products based on milk powder formulas (1, 2, 3, 4). To say that breast-feeding is "supplemented" (implying adequate supplementation) is not really accurate, however, since mothers more often than not give their children highly diluted mixtures as a result of ignorance or economic constraints. And because the Caribbean countries and territories can ill afford to pay foreign exchange for milk formula imports, economic constraints similar to those affecting individual households also operate at the national level (5, 6).

In addition, it has been shown that bottle-fed infants are much more prone to gastrointestinal infections than are breast-fed ones (7, 8, 9). This point should be of particular concern in Trinidad, where the prevalence of gastroenteritis is high (10).

In view of these considerations, efforts are now being made throughout the Caribbean to reverse the present tendencies toward artificial feeding. In Trinidad these efforts are being made not only by health authorities but also by some citizens' groups. However, to plan a strategy for promotion of breast-feeding and evaluation of the results, accurate data on current infant feeding practices are required. The data on such practices that are presented here were collected during a survey designed to assess the results of a breast-feeding campaign (11).

### Methodology

The study sample consisted of women who gave birth to live infants in Trinidad's two general hospitals (at Port-of-Spain in north-western Trinidad and San Fernando in the southwest) during a six-week period beginning on 1 August 1974. All women whose deliveries required surgical intervention, who received a general anaesthetic, who delivered twins, or whose babies weighed 2,500 grams or less at birth were excluded from the study, as it was felt that these circumstances could influence breast-feeding practices, perhaps even against the desires and plans of the mothers. For logistical reasons, women living over 20 miles from the hospitals were also excluded from the study.

<sup>1</sup>Also appearing in Spanish in the *Boletín de la Oficina Sanitaria Panamericana*, 1979.

<sup>2</sup>Medical Nutritionist, Caribbean Food and Nutrition Institute, U.W.I. Campus, St. Augustine, Trinidad, W.I.

<sup>3</sup>Systems Analyst, Caribbean Food and Nutrition Institute, Mona Campus, Kingston 7, Jamaica, W.I.

<sup>4</sup>Senior Specialist (Obstetrics and Gynecology), General Hospital, Port-of-Spain, W.I.

The women in the sample were first interviewed by two registered nurses who had previously worked at the two hospitals and who had been specially trained for this study by one of the authors. This first interview took place within 48 hours after delivery, while the respondents were still in the hospital. The information collected dealt with the personal backgrounds of the mother and father (including such items as race, age, education, and occupation), plans for feeding the newborn, and maternal knowledge about breast-feeding and human milk.

As close as possible to four months after the first interview, the respondents were visited at home by the same interviewers, and information on actual feeding practices was collected.

## Results

### *Background Data*

Four hundred and eighteen women were included in the study. Of these, 59 (14.1%) were interviewed between 4 and 7 hours after delivery, 322 (77%) between 8 and 24 hours after delivery, and the remainder either less than 4 or more than 24 hours after delivery.

The mothers' average age was 24 years, the range being from 15 to 42 years. Thirty-eight per cent of the mothers were between 20 and 24 years old. The 15-19 and 25-29 age groups were about the same size, respectively, constituting 23.4% and 24.6% of the sample. The remaining 13.8% of the mothers were 30 years of age or more.

In all, 264 of the mothers (63.2%) were multiparous. With regard to race, Negro women slightly outnumbered East Indians (43.5% to 40.4%), the remaining 16.1% being mixed.

Only four women (1%) had no schooling whatever; over half (56%) had received five to nine years of elementary and high school

education, and 41.4% had received more than nine years. In addition, 28.9% of the mothers had received some university education. (The remainder did not respond.)

Most of the mothers were married (56.9%) or maintained stable common-law unions (25.1%). Of the fathers, 25% were unskilled laborers, 34% were skilled or semi-skilled workers, 3% were professionals, and 6% did not have any occupation; the remaining 32% were engaged in clerical work, sales activities, protective services, or similar occupations.

### *Attitudes toward Breast-Feeding*

The great majority of mothers (98.3%) initially planned to breast-feed their babies. Most (88.8%) thought that breast milk was better for the baby than any other type of milk, and most (81%) felt that breast-feeding was cheaper than bottle-feeding. A total of 62.7% also believed that breast-feeding was more convenient. Despite these beliefs, however, 258 of the women (62.6%) felt bottle-feeding should be introduced before the baby was two months old (see Table 1).

As stated during the first interview, more than half of the fathers (57.1%) agreed with the mothers' plans for breast-feeding the baby; 1% disagreed, while another 1% "did not care." In 40.3% of the remaining cases

**Table 1. Ages at which mothers thought bottle-feeding should be introduced.**

	No. of mothers	%
One month or less	258	62.6
2 months	38	9.2
3 months	50	12.1
4 months	16	3.9
5 months	4	1.0
6 months or over	11	2.7
Don't know	35	8.5
Total	412	100.0

the matter was never discussed by the parents. (The remainder did not respond.)

### *Hospital Practices*

At the time of the first interview 262 infants (63.6%) had been put to the breast already, though in most cases (228 or 87.1%) this had not been done until 8 or more hours after delivery (see Table 2).

Of the 150 mothers who had not yet breast-fed their babies, 96 (64%) said that it was because the baby had not been given to them yet, although more than half of these mothers (51%) were interviewed 8 hours or more after delivery (see Table 3). Moreover, nearly half (45%) of all children put to the breast before the interview had received a milk powder formula before the first nursing session (see Table 4).

**Table 2. Time after birth when the child was first breast-fed.**

Time after birth	No.	%
Less than 4 hours	1	0.4
4-7 hours	33	12.6
8-23 hours	226	86.3
24-48 hours	2	0.8
Total	262	100.1

### *Weaning Practices*

As far as possible, the second interview was conducted when the baby was four months of age. As Table 5 indicates, this aim was accomplished in 69.2% of the cases where second interviews occurred. However, 63 (15%) of the original 418 women could not be located, and in 7 cases (1.7%) the child had died. Second interviews were therefore conducted with 348 (83.3%) of the original subjects. Only 55 of the 348 women (15.8%) were working at the time these interviews were performed.

Twenty-two of the mothers (6.3%) still relied entirely on breast-feeding at the time of the interview. About a third had started their babies on the bottle before the latter were two weeks old, and some two-fifths had begun bottle-feeding their infants between two weeks and two months of age (see Table 6).

At the time of the home interview 40.8% of the children had been weaned completely from the breast; 28.7% were breast-fed five or more times daily (see Table 7). The mother's commonest reason for introducing artificial feeding was that she had insufficient milk (see Table 8).

When the mothers were asked why they were using a particular brand of milk powder, almost one-quarter (24.5%) said that it had been recommended by a friend

**Table 3. Time of first interview and reasons why the child had not yet been put to the breast.**

Reasons for not having put baby to the breast	Time of interview (No. of hours after birth)					Total
	4	4-7	8-23	≥ 24	Not stated	
Not yet given to mother	9	38	44	1	4	96
Not yet lactating	—	5	24	1	5	35
Painful breasts	—	1	—	1	—	2
Other reasons	—	2	8	—	4	14
Unknown	—	2	—	—	1	3
Total	9	48	76	3	14	150

**Table 4. Food given to children before the first nursing session.**

	No.	%
Nothing	139	53.0
Milk powder	118	45.0
Glucose/water	3	1.1
Don't know	2	0.8
Total	262	99.9

**Table 5. Age of study children at the time of the home interview.**

Age	No.	%
3 months	58	16.7
4 months	241	69.2
5 months	44	12.6
Not stated	5	1.4
Total	348	99.9

**Table 6. Age of the child when other milk was introduced.**

Age	No.	%
1 week or less	119	34.2
2 weeks	34	9.8
3 weeks	17	4.9
1 month	96	27.6
2 months	39	11.2
3 months	19	5.5
4 months	2	0.6
Not yet introduced	22	6.3
Total	348	100.1

**Table 7. The average number of times the breast was given in 24 hours.**

No. of times	No. of cases	%
One	12	3.5
Two	27	7.8
Three	27	7.8
Four	40	11.5
Five	23	6.6
Six	29	8.3
Seven or more	48	13.8
None	142	40.8
Total	348	100.1

or relative, but a similar number (22.5%) said that the brand had been recommended by a doctor or a nurse (see Table 9).

Cereals were given regularly to 217 children (62.4%) and fruit juices to 129 (37.1%). Eighty-two children (23.6%) were getting cod liver oil or a vitamin preparation on a regular basis.

**Table 8. Reasons why artificial feeding was started.**

Reasons	No.	%
Insufficient milk	116	35.6
Baby not satisfied	43	13.2
Wanted baby to get used to the bottle	43	13.2
Medical reasons (mother or baby)	27	8.3
Baby refused breast	26	8.0
Was planning to go out to work	21	6.4
Had to work	13	4.0
Other reasons	13	4.0
No reason	13	4.0
Breast problems	9	2.8
Reasons not stated	2	0.6
Total	326	100.1

**Table 9. Reasons why a particular brand of milk was used.**

Reasons	No.	%
Recommended by friend or relative	74	24.5
Recommended by nurse or doctor	68	22.5
Baby satisfied with it	58	19.2
Thought it was the best	55	18.2
No particular reason	29	9.6
Less expensive	5	1.7
Other reasons	5	1.7
Saw it being used at the hospital	3	1.0
Saw it advertised	2	0.7
Not stated	2	0.7
Sample given free at the hospital	1	0.3
Total	302	100.1

## Discussion and Conclusions

Since more than half of all births in Trinidad take place in the two hospitals where the study was conducted, the results can be assumed to apply to a substantial share of Trinidadian women, especially those belonging to the lower and lower-middle socioeconomic classes in urban and semi-rural communities.

It is somewhat distressing to see that most of the women were convinced that breast-feeding had to be supplemented as early as the first month of life. This is especially distressing when one observes over and over again that "supplementation," in the great majority of cases, really means replacement of clean, almost sterile mother's milk that contains the correct amounts of all the nutrients the baby needs (13) with an expensive, overdiluted artificial product such as milk powder formula (14) that is more often than not contaminated, and that is usually given to the child in a hard-to-clean plastic bottle whose teat is frequently a feeding-ground for flies.

The most recent *Population and Vital Statistics Report* available (12) shows that 45% of all deaths among infants one month or older in Trinidad and Tobago in 1972 were due to enteritis and other diarrheal

diseases. Since it has been demonstrated elsewhere that such mortality is higher among artificially fed children than among those who are breast-fed (7, 15), it is quite likely that many infant deaths in Trinidad could be prevented simply by avoiding bottle-feeding.

Therefore, it is disturbing to see that the practices of the obstetric wards are often contrary to those clearly shown to facilitate the establishment of breast-feeding. The advantages of early breast-feeding are evident. Early and frequent nursing encourages milk production and prevents breast problems (16). A group of highly qualified and experienced Caribbean health workers has recommended that "following delivery, the infant should be offered breast-feeding as early and at as frequent intervals as possible" (17). Early breast-feeding also makes it unnecessary to administer a milk powder formula or glucose water, substances that "decrease the baby's appetite and the vigorosity of sucking" (17).

The data in Table 10 shows a significant negative association between giving the infant a bottle before the first breast-feeding and the frequency of breast-feeding at the time of the second interview.

The medical and nursing professions

Table 10. Association between early bottle-feeding and subsequent breast-feeding practice.

Breast feeding practice at time of home interview (some 4 months after birth)	Prior to the first nursing session		Total
	Milk or glucose given by bottle	No bottle given	
No breast-feeding at all	44 (52%)	64 (38%)	108
One or two breast feeds daily	20 (24%)	32 (19%)	52
Three or more breast feeds daily	21 (24%)	71 (43%)	92
Total	85 (100%)	167 (100%)	252

$$\chi^2 = 7.79; p < 0.025.$$

have an extremely important role to play with regard to breast-feeding. In particular, they must ensure that the baby is put to the breast immediately after birth and as often thereafter as the mother and baby desire. To facilitate this the baby should be kept in a crib by the mother's bed. The health professions should discontinue the acknowledged bad practice of giving artificial food before the baby has its first opportunity to suck.

It has been postulated that bottle-feeding is started because many mothers today have jobs. That was obviously not the case in this study, however, as only a minority of the women involved were working. Instead there seems to be a contradiction between these women's belief in the value of breast

milk and their beliefs and practices with regard to artificial feeding. For while the great majority agreed that breast-feeding was better for the baby and cheaper and more convenient for themselves, they still thought it was not enough—and hence "supplementation" began at a very early stage. It is evident that a tremendous amount of nutrition education work is needed in Trinidad to promote breast-feeding and discourage artificial feeding. There is some evidence suggesting that a recent campaign organized by the Housewives Association of Trinidad and Tobago (11) may provide the type of approach likely to appeal to mothers, and that continued use of this approach would be worthwhile.

### ACKNOWLEDGMENTS

The authors wish to acknowledge the assistance and advice given them by Drs. I. Mohammed and M. McDowall from the Port-of-Spain and San Fernando General Hospitals, and the cooperation shown by the

nursing staff of the maternity units of those two hospitals, as well as the dedication of Mrs. J. Headley and Mrs. S. Mohammed in carrying out the interviews.

### SUMMARY

This article reports the results of research on breast-feeding practices of women in Trinidad delivering babies at the island's two general hospitals. Most of the women studied were planning to breast-feed their children, but a long interval was allowed to elapse between birth and the first nursing session. During this interval a considerable share of the infants were given a milk powder formula or glucose water.

Follow-up interviews conducted some four months after delivery revealed that almost half the children had been completely weaned from the breast, and that only a minority of the mothers relied solely on breast-feeding. A significant association was also found between early bottle-feeding (before the first nursing session) and termination of breast-feeding by the time of the follow-up interview.

### REFERENCES

(1) Pan American Health Organization. *The National Food and Nutrition Survey of Barbados*. PAHO Scientific Publication 237. Washington, 1972.

(2) Pan American Health Organization. *The National Food and Nutrition Survey of Guyana*. PAHO Scientific Publication 323. Washington, 1976.

- (3) Caribbean Food and Nutrition Institute. *The National Food and Nutrition Survey of St. Lucia*. Kingston, Jamaica, 1976.
- (4) Grantham-McGregor, S. M., and E. H. Back. Breastfeeding in Kingston, Jamaica. *Arch Dis Child* 45:404-409, 1970.
- (5) Berg, A. *The Nutrition Factor*. The Brookings Institution, Washington, D.C., 1973.
- (6) McKigney, J. Economic aspects of human milk. *Am J Clin Nutr* 24:1005-1012, 1971.
- (7) Robinson, M. Infant morbidity and mortality: A study of 3,266 infants. *Lancet* 1: 788-793, 1951.
- (8) Mata, J., J. J. Urrutia, and J. E. Gordon. Diarrhoeal disease in a cohort of Guatemalan village children observed from birth to age two years. *Trop Geogr Med* 19:247-257, 1967.
- (9) Mata, L. J., R. Fernandez, and J. J. Urrutia. Infección del intestino por bacterias enteropatógenas en niños de una aldea de Guatemala, durante los tres primeros años de vida. *Revista Latinoamericana de Microbiología y Parasitología* 11:102-109, 1969.
- (10) Caribbean Epidemiological Research Center, Port-of-Spain, Trinidad. *CAREC Surveillance Report* 1(7), 1975.
- (11) Gueri, M., and P. Jutsum. Evaluation of a breast-feeding campaign in Trinidad. *Bull Pan Am Health Organ* 12(2):112-115, 1978.
- (12) Central Statistical Office. *Population and Vital Statistics Report*. Port-of-Spain, Trinidad, 1972.
- (13) Jelliffe, D. B., and E.F.P. Jelliffe (eds.). The uniqueness of human milk. *Am J Clin Nutr* 24:968-1024, 1971.
- (14) Muller, M. *The Baby Killer*. War on Want, London, 1974.
- (15) Puffer, R. R., and C. V. Serrano. *Patterns of Mortality in Childhood*. PAHO Scientific Publication 262. Pan American Health Organization, Washington, 1973.
- (16) Applebaum, R. M. The modern management of successful breastfeeding. *Pediatr Clin North Am* 17:203-224, 1970.
- (17) Pan American Health Organization. *Guidelines to Young Child Feeding in the Contemporary Caribbean*. PAHO Scientific Publication 217, Washington, 1970.

### CONGRESS OF ANDROLOGY

The first Pan American Congress of Andrology will be held in Caracas, Venezuela, 13-16 March 1979. There will be 10 symposia—Physio-anatomy of testis, Male accessory organs, Diagnostic andrology, Surgery of male reproductive disorders, Medical treatment of male infertility, Artificial insemination, Prostatic diseases, Sexually transmitted diseases, Male contraception, and Standardization of andrology techniques. In addition, a post-graduate course in andrology in Spanish will be given. The American Urological Association, Inc. certifies that this continuing medical education meets the criteria for 40 credit hours in Category I of the Physician's Recognition Award of the American Medical Association. For information write to Program Director Dr. E.S.E. Hafez, Wayne State University School of Medicine, Medical Research Building, 550 E. Canfield, Detroit, Michigan 48201 (telephone 313-577-1011 A.M., 313-577-1068 P.M.).