

Setting up a Breast Milk Bank: Some Socio-Psychological and Organisational Considerations

MTC EGRI-OKWAJI,* A BAMISAIYE† AND I AHMED**

Summary

Egri-Okwaji MTC, Bamisaiye A and Ahmed I. Setting up a Breast-Milk Bank: Some Socio-Psychological and Organisational Considerations. *Nigerian Journal of Paediatrics* 1984; 11:23. The acceptability of a Breast milk Bank among a small sample of Nigerians, using obstetrics and neonatal services within the Lagos University Teaching Hospital, was investigated by means of interviews. Interviewed fathers were more in favour of the donation of breast milk and of their babies receiving donated breast milk than were interviewed mothers. The most frequently stated reason for mother's unwillingness to donate breast milk was a fear about insufficient milk supply, whereas their unwillingness for their babies to receive donated breast milk related most commonly to fears of disease transmission and passing of personality characteristics from breast-milk donor to recipient. Considering the logistic difficulties of establishing a Breast milk Bank, it is recommended that in the interim, milk from a donor, may be administered in the mother's absence after brief refrigerator storage.

Introduction

DIARRHOEAL diseases of various aetiology, predominantly infective, remain a prominent medical problem in the developing world. Human breast milk is known to be nutritionally

superior to any other milk for the human baby.^{1,2} Other beneficial constituents of human milk recently identified, include the antibacterial, anti-viral and anti-fungal, as well as immunologic properties of its immunochemical and cellular components.^{3,4} Thus, the use of breast milk in certain medical centres has considerably reduced the incidence of diarrhoea and virtually made necrotizing enterocolitis non-existent.⁴

All mothers may not be available at all times to breast feed their babies directly. Consequently, an arrangement needs to be made to avail the motherless baby, any ill baby or long-stay newborn babies whose mothers may not be readily available, the benefit of the

Lagos University Teaching Hospital, Lagos

Department of Paediatrics

*Senior Registrar

**Professor

University of Lagos, Lagos

Institute of Child Health

†Senior Lecturer

protective properties of human milk. This calls for the establishment of a Breast milk Bank. For ethical, social and psychological reasons, it is pertinent to assess the attitude of parents to the feeding of Expressed Breast Milk from a donor mother to their babies

According to Williams,⁵ any female relative in Ghana could suckle a child in an emergency. Jelliffe⁶ and Ransome-Kuti⁷ have both reported from Nigeria that, not only relatives but also neighbours may breast-feed a child, if necessary. The latter finding in particular, prompted us to enquire whether the complete impersonality of a Breast milk Bank would consequently be acceptable in the Nigerian cultural context.

Materials and Methods

A small-scale study was designed, to assess the attitude of users of neonatal and obstetric services at the Lagos University Teaching Hospital towards the establishment of a Breast-milk Bank within the institution. The interviews were carried out in a week. The mothers were asked about their willingness to donate breast milk for a milk Bank and their willingness for their babies to receive milk from a Breast-milk Bank. Approximately half the mothers (32) had babies on admission in the neonatal ward and the others (28) had recently delivered and were in the lying-in ward.

Preliminary interviews had earlier revealed that women wished to consult their husbands on the issue of donating or receiving donated breast milk. Consequently, an availability sample of 20 fathers of babies on admission, was also interviewed. The limited duration of the study made it impossible to contact a larger number of fathers. The interviews were carried out by two male and two female interviewers employed by the Institute of Child Health and Primary Care, who interviewed fathers and mothers respectively.

Results

Over 90% of the mothers and fathers interviewed were of Yoruba ethnic group. Further characteristics of the study population are shown in Table I. The fathers were older than the mothers, were better educated and a larger proportion were in high status occupations.

The attitude towards a Breast milk Bank differed quite significantly by sex of the parent. Table II shows that 19 (95%) of the fathers interviewed would be willing for their wives to donate breast milk to a Bank and for their infants to receive donated breast milk if necessary. By contrast, whereas 43 (72%) of the

TABLE I

Socio-Economic Characteristics of 80 Parents Interviewed

Characteristics	Fathers (N = 20)	% of Total	Mothers (N = 60)	% of Total
<i>Age (years)</i>				
15-24	—		26*	47
25-34	11	55	22	40
35+	9	45	7	13
<i>Formal Education</i>				
None	1	5	17	28
Primary	10	50	19	32
At least, secondary	9	45	24	40
<i>Occupation</i>				
Professional	6	30	7	11
Clerical/Sales	2	10	14	24
Skilled	6	30	1	2
Unskilled/Trade	6	30	25	42
Housewife	—		13	21

*Five mothers who were unable to give their exact ages are excluded from the frequency distribution of age

TABLE II
Willingness to Donate or Receive Breast-Milk According to the Sex of Parents

	Donate				Receive			
	No. of Fathers*	% of Total	No. of Mothers	% of Total	No. of Fathers**	% of Total	No. of Mothers	% of Total
Willing	19	95	43	72	19	95	17	28
Unwilling	1	5	17	28	1	5	43	72
Total	20	100	60	100	20	100	60	100

* Willingness for wife to donate breast milk.

** Willingness for infant to receive donated breast milk.

mothers would be willing to donate breast milk, only 17 (28%) would be willing for their child to receive donated milk. The reason given by the mothers for their unwillingness to donate or receive breast milk are given in Table III. The unwillingness to donate included fears of insufficient milk supply, "incompatibility of blood" of mother and recipient and dislike for the idea, while that of receiving included transmission by donor to recipient of disease or personality characteristics, bringing about "mixed blood" in the child and dislike for the idea.

As shown in Table IV, the willingness to donate breast-milk increased with the educational level of the mother. Of the 17 women with no formal education only seven (41%) would be willing to donate, while 22 (52%) of 24 mothers with at least, secondary education would be willing to donate. However, the mother's willingness to receive donated milk did not rise with the educational level in the same way, in as much as women with at least secondary education had a slightly lower proportion of those willing to receive donated milk for their infants than those with primary education.

TABLE III

A. Reasons Given by 17 Mothers for Unwillingness to Donate Breast-Milk

Reason	No. of Mothers	% of Total
Fears insufficient milk supply	8	47
Blood of mother and recipient may not be the same	4	23
Merely dislikes the idea	5	30
Total	17	100

B. Reasons Given by 43 Mothers for Unwillingness to Allow their Infants to Receive Donated Breast-Milk

Reason	No. of Mothers	% of Total
Disease or personality characteristics may be transmitted by donor	17	39
Will affect relationship between natural mother and child	5	12
Will bring about "mixed blood" in child	6	14
Concern about hygiene of donor	4	10
Merely dislikes the idea	11	25
Total	43	100

TABLE IV

Willingness to Donate or Receive Breast-Milk According to the Education of the Mothers

	Donate						Receive					
	Formal Education						Formal Education					
	None	%	Primary	%	Secondary	%	None	%	Primary	%	Secondary	%
Willing	7	41	14	74	22	92	4	24	6	31	7	29
Unwilling	10	59	5	26	2	8	13	76	13	69	17	71
Total	17	100	19	100	24	100	17	100	19	100	24	100

Discussion

The majority of mothers in the present study were willing to donate breast milk to a Breast-milk Bank. However, nearly three-quarters of the women interviewed had misgivings about their baby receiving breast milk donated to a Bank. The most frequently stated reason was related to the belief that it is possible for disease and personality characteristics to be passed from breast milk donor to recipient.

The fear expressed by the mother concerning the passing on of personality traits of the donor confirms fears which have been expressed over the centuries from most cultures in connection with the practice of wet-nursing.^{8,9} However, mothers can be reassured that it is not the breast milk as such, but the care and nurture of the child over the period of growth and development which contributes to the shaping of personality. The reasons given about the effect of "mixed blood" refer to the belief that children who nurse from the same mother become kin or "blood" relations. This belief in a "milk relationship" has also been reported from France,¹⁰ for many African cultures¹¹ and is mentioned in the *Holy Quran*. In the present study, most Muslim mothers had reservations about their babies receiving donated milk, but most Christian mothers were equally concerned. Emphasising the completely impersonal nature of the organisation of a Milk-Bank should help to allay the

anxieties of mothers on these grounds and also the fact that babies will receive donated breast milk only for the relatively short time that most of them are on admission. Concerns about the hygiene of the donor mother may be allayed by describing the precautions to be taken in selecting breast-milk donors and handling of donated milk.

With regard to fears of disease being transmitted through donated breast milk, proper screening of donors before acceptance of their milk will prevent any possible spread of infective agents in breast milk.¹² This has worked well in other countries where Breast-milk Banks operate. Since some drugs are known to be excreted in breast-milk, donors are expected to report any drugs they may be taking and their milk rejected while on such drugs.¹³ However, in a large Breast-milk Bank, it is doubtful if drugs excreted in milk by a few donors can produce enough drug concentration to affect recipient babies.

Although most mothers expressed fears and anxieties about a Breast-milk Bank as indicated above, a number of other mothers appeared to have an innate repugnance to breast-milk donation and use. Such mothers merely responded in general term by stating that they "dislike the idea". Mothers' fears and anxieties about donated breast milk, once identified, may be dispelled by effective health education as indicated above. It should however, be noted that mothers' doubts on this

topic are likely to vary with the cultural setting, and educational efforts should reflect this if Breast-milk Banks are set up in other parts of Nigeria.

The most encouraging finding in the present study was the very positive attitude of a high proportion of the fathers to the idea of a Breast-milk Bank. In patrilineal societies of Nigeria, fathers are invariably asked to sanction arrangements for the child's health care. Thus, with the father's support, convincing the mother about the use of a Milk-Bank should not present any real difficulty.

In Nigeria, the home-based collection of breast-milk, either expressed manually or by breast pump, may not be quite feasible, considering the environmental hygiene of most homes, the absence of refrigeration and the difficulties of organising transport for regular collection. Therefore, we would suggest a hospital-based collection from patients and from volunteers among breast-feeding hospital staff under the supervision of an experienced Nurse/Midwife. Manual expression under sterile conditions is to be preferred since the risk of infection is less with manual expression than with use of a breast pump and is cheaper.¹⁴ However, considering the time it may take to organise Banks of pooled human milk and in view of the many advantages of breast-milk, we think that in the interim, all hospitals and even small maternities and clinics should start encouraging mothers to express their milk in addition to direct breast-feeding. The milk thus produced may be stored in an ordinary hospital refrigerator for a period not exceeding 24 hours. After mild warming such stored milk may then be fed to babies, particularly the low birthweight ones whose mothers may not be available to breast-feed. The method of feeding will be dictated by the clinical state of the infant. According to several workers,^{2 13 15} short-term storage and milk-warming do not destroy the cellular constituents of breast milk and storage in plastic bags

as against glass containers also enhances the preservation of such cells.^{2 3}

Acknowledgements

The authors thank Professor O Akinola for permission to interview mothers lying-in after delivery; the nursing staff of Wards D1, C2 and C3 for their co-operation; Mrs G Oshabi, Mrs L M Ogbonna, Mr L A Adetayo and Mr Y Gbadamosi for carrying out the interviews and Mrs A A Famurewa for the analysis of the data.

References

1. Widdowson EM. Protective properties of human milk and the effects of processing on them (Symposium Report). *Arch Dis Childh* 1978; **53**: 684-6.
2. Williamson S, Hewitt JH, Fincane E and Gamsu HR. Organisation of Bank of raw and pasteurised human milk for neonatal intensive care. *Br Med J* 1978; **1**: 393-6.
3. Welsh JK and May JT. Anti-infective properties of breast milk. *J Pediat* 1979; **94**: 1-9.
4. Barlow B, Santulli TV, Heird WC, Pitt JM, Blanc WA and Schnullinge JN. An experimental study of neonatal enterocolitis-the importance of breast milk. *J Pediat Surg* 1974; **9**: 587-97.
5. Williams C. Cited in: Infant Nutrition in the Tropics and Sub-Tropics, Jelliffe DB, ed. Geneva: WHO, 1955.
6. Jelliffe DB. Infant Nutrition in the Tropics and Sub-Tropics. Geneva: WHO, 1955.
7. Ransome-Kuti O. Milk and Lactation. *Mod Probl Paediat* 1975; **15**: 117-24.
8. Wickes IG. A history of infant feedings. *Arch Dis Childh* 1953; **28**: 332-40.
9. Jelliffe DP and Jelliffe EFP. Human milk in the Modern World. Oxford University Press, 1978.
10. Jelliffe EFP. Breast Feeding and the Mother. Ciba Foundation Symposium 45 (New Series) Amsterdam: Elsevier, 1976.
11. Niehoff A and Meister N. The cultural characteristics of breastfeeding. *Env Child Health* 1972; **18**: 16-20.
12. Roy CC and Lescop J. Human milk banking-high rate of interest for a still uncertain credit balance (marginal comments). *Am J Dis Child* 1979; **133**: 255-6.
13. Knowles JA. Excretion of drugs in milk—a review. *Ped Pharm Therap* 1965; **66**: 1068-82.
14. Liebhaber M, Lewiston JN, Asquith MT and Sunshine P. Comparison of bacterial contamination with two methods of human milk collection. *J Pediat* 1978; **92**: 236-7.
15. Ford JE, Marshall VME and Reiter B. Influence of the heat treatment of human milk on some of its protective constituents. *J Pediat* 1977; **90**: 29-35.

Accepted 6 December 1983.