Exclusive Breastfeeding Among Women on the Plantations in Sri Lanka

by Eigil Sørensen,* Dulitha N. Fernando,** Indira Hettiarachchi,*** Somchai Durongdej,**** Amornrath Podhipak,**** *and* Bjørg B. Skaara*

**Technical Assistance Team, Colombo, Sri Lanka*

***Department of Community Medicine, Faculty of Medicine, University of Colombo, Sri Lanka*

****Plantation Housing and Social Welfare Trust, Colombo, Sri Lanka*

*****Faculty of Public Health, Mahidol University, Bangkok, Thailand*

Summary

A cross-sectional questionnaire survey, using the current status method for the assessment of breastfeeding, was conducted among women working in the plantations in Sri Lanka. The exclusive breastfeeding rate was 32.4 per cent. The mothers' return to work and the feeling of having insufficient milk were significantly and negatively associated with exclusive breastfeeding. Women will sometimes start with powdered milk several weeks before going back to work, suggesting that work itself is not the only reason for introducing powdered milk. Although the health authorities have endorsed the concept of exclusive breastfeeding, further health education is needed for the full acceptance of exclusive breastfeeding in the population.

Exclusive breastfeeding for the first 4–6 months has been promoted, especially in developing countries, during the past decade.[1] A study was carried out to assess the present breastfeeding practices with special emphasis on factors associated with exclusive breastfeeding among women working as tea pluckers or rubber tappers in the plantations in Sri Lanka.

Materials and Methods

The study was a cross-sectional questionnaire survey using the current status method based on the format and definitions for assessment of breastfeeding practices suggested by WHO.[2] A stratified multistage cluster sampling scheme was applied: 1732 mothers with children aged 0–24 months were included in the study with data collection from May to September 1995. The sample size was calculated based on the objective to estimate the exclusive breastfeeding rate and was corrected for using cluster sampling. Female health workers were used as interviewers with a systematic follow-up of each questionnaire from field supervisors, a procedure considered appropriate for these types of studies.[3] The information collected through the questionnaire was supplemented by focus-group discussions.

Results

Seventy-three per cent of the infants received exclusive breastfeeding during the first month of life, but this was reduced to 28 per cent and 18 per cent in the second and third months. The exclusive breastfeeding rate was 32 per cent, while the predominant breastfeeding rate was 55 per cent. The median duration of breastfeeding was 21 months. When asked at what age additional fluid besides breast milk was needed, 35 per cent of the mothers indicated less than 3 months.

The results of the multivariate analysis for factors associated with exclusive breastfeeding, using a logistic regression model, are shown in Table 1. The mother's return to work and the feeling of having insufficient milk were significantly and negatively associated with exclusive breastfeeding. In this study, 26 per cent of the mothers with children aged less than 4 months complained of insufficient milk. Women aged above 30 years and those who gave the children pre-lacteal feeding were also less likely to breastfeed exclusively.

Discussion

Only a small proportion of women in the plantations will continue exclusive breastfeeding for more than 1 month, similar to findings from other parts of Sri Lanka.[4] Although the concept of exclusive breastfeeding is being

Acknowledgements

This study was supported by the Technical Assistance Team, Colombo, Sri Lanka which is funded by the Dutch and Norwegian Government.

Correspondence: Dr Eigil Sørensen, Kirkeåsveien 4b, N-1178 Oslo, Norway.

TABLE 1
Multivariate analysis of factors associated with exclusive breastfeeding[a]

Variable	Crude			Adjusted		
	OR	90% CI		OR	90% CI	
			p			
Age of mother: 17–20 years	0.90	0.50–1.62		0.78	0.29–2.04	0.664
Age of mother: 30–42 years	0.46	0.25–0.83		0.33	0.12–0.89	0.066
Pre-lacteal feeds given[b]	0.52	0.30–0.88		0.42	0.19–0.92	0.069
Mother gone back to work	0.03	0.009–0.11		0.01	0.003–0.08	<0.0001
Mother feels that she has insufficient milk	0.45	0.25–0.79		0.33	0.14–0.80	0.041

[a]In the logistic regression model the following other variables were also included to control for possible compounding factors: parity, place of birth, and ability to read. Testing showed no significant interaction. OR, odds ratio; CI, confidence interval. A probability level of less than 0.05 was considered statistically significant.

promoted, most of the mothers do not practice exclusive breastfeeding. This is for practical reasons and because many women do not know or believe that infants can survive well without any additional liquids besides breast milk. As shown in this study, mothers often believe that the child needs additional water even from birth onwards.

Going back to work was the factor most strongly negatively associated with exclusive breastfeeding. This is consistent with findings from other studies that have shown that employment is a barrier to breastfeeding and especially to exclusive breastfeeding.[5–8] Although most mothers will go back to work in the third month after delivery, they will start with powdered milk earlier to get the child used to this type of milk. Women will sometimes start with powdered milk several weeks before going back to work, suggesting that work itself is not the only reason for introducing powdered milk.[9] Delay of bottle feeding, even for some weeks, would benefit the child and should be encouraged.

The women are entitled to time off for feeding twice a day during working hours when the child is less than 1 year old. The study showed that most of the women used this opportunity for breastfeeding, but the long distance to the work place was a problem. The preparation of milk formula to be given in a bottle by the caretaker is chosen by most women as the best solution, considering their time constraint. Although employment in the plantation sector may not be compatible with exclusive breastfeeding, the advantage is that most women continue to breastfeed as suggested by the long median duration. They also seem to perceive breast milk as the main source of nutrition for children during the first year of life.

The mother's feeling of having insufficient milk was negatively associated with exclusive breastfeeding. The feeling of not having enough milk could be due to lack of confidence or inadequate breastfeeding techniques; more can be done by health workers in the follow-up of mothers who complain of not having enough milk. Pre-lacteal feeding was negatively associated with exclusive breastfeeding, although this was not significant in the multivariate analysis. This emphasizes the significance of the pre-lacteal feeding; not only might pre-lacteal feeding interfere with the initiation of breastfeeding, but can also contribute to the impression that the infant needs water or watery liquids besides breast milk. A study in rural Egyptian infants showed that mothers who initiated breastfeeding within two hours post-partum were less likely to give pre-lacteal feeding and were more likely to breastfeed exclusively during the first 11 weeks of infancy.[10] The use of the pre- and postnatal period to promote sound feeding practices and exclusive breastfeeding is important; the principles introduced through the baby-friendly hospital initiative can serve as guidelines. Further training of health staff and continuous education of the population are needed for the full understanding and acceptance of the concept of exclusive breastfeeding.

References

1. WHO/UNICEF. Innocenti Declaration on the Protection, Promotion and Support of Breast-feeding. Ecol Food Nutr 1991; 26: 271–3.
2. World Health Organization. Indicators for Assessing Breast Feeding Practices. Geneva, 1991.
3. Danko RA, Selwyn BJ, Zamora-Romero R, Chavez-Ordonez XP. A simplified methodology for the community-based assessment of breast-feeding and amenorrhea in Mexico. Bull WHO 1990; 68: 223–30.
4. Government of Sri Lanka. Sri Lanka Demographic and Health Survey 1993. Colombo, 1995; 130–42.
5. Marchione TJ, Helsing E (ed.) Project report. Results and Policy Implications of the Cross-National Investigation: Rethinking Infant Nutrition Policies under Changing Socio-Economic Conditions. Acta Paediatr (Suppl.) 1984; 314: 1–61.
6. Chalmers B, Ransome OJ, Herman A. Working while breast feeding among coloured women. Psychol Rep 1990; 67: 1123–8.
7. Weile B, Rubin DH, Krasilinikoff PA, Kuo HS, Jekel JF. Infant feeding pattern during the first year of life in

Denmark: factors associated with discontinuation of breastfeeding. J Clin Epidemiol 1990; 43: 1305–11.
8. Duckett L. Maternal employment and breastfeeding. NAACOGS Clin Issue Perinat Womens Hlth Nurs 1992; 3: 701–12.
9. Cohen RJ, Haddix K, Hurtado E, Dewey KG. Maternal activity budgets: feasibility of exclusive breastfeeding for six months among women in Honduras. Soc Sci Med 1995; 41: 527–36.
10. Hossain MM, Reves RR, Radwan MM, Habib M, DuPont HL. The timing of breastfeeding initiation and its correlates in a cohort of rural Egyptian infants. J Trop Pediatr 1995; 41: 354–8.

Urinary Tract Infections in Children Due to *Pseudomonas aeruginosa* in Enugu, Nigeria

by U.C. Ozumba FWACP, FMCPATH
Department of Medical Microbiology, University of Nigeria Teaching Hospital, Enugu, Nigeria

Summary

During a 4-year period, March 1989 to February 1993, 22 children with proven urinary tract infections (UTI) due to *Pseudomonas aeruginosa* were studied retrospectively. The infections were more common in males (59 per cent), with the highest number of cases 10 (46 per cent) occurring in the 1–4 year age group. Sixty-eight per cent of the children had risk factors for infection with renal diseases, accounting for 36 per cent, followed by surgery of the urinary tract/catheters (23 per cent).

The unavailability of the newer antipseudomonal antibiotics, coupled with the occurrence of predisposing factors, makes the elimination of the organisms difficult, thus leading to prolonged and costly treatment.

Introduction

Bacterial infections of the urinary tract are commonly seen among out-patients as well as hospitalized patients. They create a problem in most paediatric populations. Unrecognized urinary tract infection in infancy and childhood may have serious long-term effects and chronic adult pyelonephritis may originate undetected at this time.[1] There is no previous study on UTI by *Pseudomonas aeruginosa* in Nigerian children, so this study was undertaken to assess its prevalence, predisposing factors, and the problems of drug resistance.

Patients and Methods

The records of all children who had urinary tract infection (UTI) due to *Pseudomonas aeruginosa* at the University of Nigeria teaching Hospital (UNTH) over the 4-year period March 1989 to February 1993 were reviewed.

In our laboratory, mid-stream urine samples are normally collected, examined, and cultured by routine procedures. *Pseudomonas aeruginosa* was identified by such routine procedures. The sensitivity of the isolates to ampicillin, co-trimoxazole, nitrofurantoin, nalidixic acid, colistin, tetracycline, ofloxacin, ciprofloxacin, carbenicillin, gentamicin, and tobramycin was determined on diagnostic sensitivity test agar, by the modified Kirby–Bauer disc diffusion technique.

Results

During the 4-year study period, a total of 3456 urine samples were examined in children with *Pseudomonas aeruginosa* accounting for 22 (9 per cent) of all cases. Twenty (91 per cent) were hospital acquired, while only two (9 per cent) were community acquired.

Sex and age

Thirteen (59 per cent) of the cases occurred in males while nine (41 per cent) occurred in females, with the highest number of cases, 10 (46 per cent) occurring in the 1–4 year age group (Table 1).

TABLE 1
Age and sex distribution in 22 cases of Pseudomonas aeruginosa *UTI*

Age range (years)	Sex		Total number
	Males	Females	
1	–	2	2 (9.1)
1–4	7	3	10 (45.5)
4–8	5	3	8 (36.4)
8–12	–	1	1 (4.5)
12–13	1	–	1 (4.5)
Total	13	9	22 (100)

Figures in parentheses indicate percentage.