

Effect of Intervention on Promotion of Exclusive Breast Feeding

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Dure Samin Akram, Mubina Agboatwalla, Samia Shamshad (Department of Paediatrics, Unit-II, Civil Hospital, Karachi.)

Abstract

A community-based intervention study was conducted in a Katchi Abadi (slum area) of Karachi with the objective of improving optimal breast feeding practices, including promotion of exclusive breast feeding and giving of colostrum to newborns. Sixty-seven mothers were registered in the intervention group and 53 in the control group. Health education to promote exclusive breast feeding was provided in the form of flip-charts, videos and photographs. Sixty-six percent mothers in the control group gave prelacteals as compared to 31% in the intervention group ($P < .0001$). Colostrum was given by 97% mothers in the intervention group and 3% in the control group. Majority (94%) of intervention group mothers continued exclusive breast feeding till four months of age against 7% in the control group. It was concluded that health education programmes in the antenatal period as well as after birth can promote exclusive breast feeding practices (JPMA 47: 46, 1997).

Introduction

Breast feeding has been increasingly recognized as a prerequisite for healthy child growth and development¹. Although the advantages of breast feeding are considerable, the incidence and duration of breast feeding varies widely. The 1984-86 Nutrition Survey of Pakistan indicated that 99.3% mothers breast feed at birth². However, in recent studies the rate has dropped to 90.8%³. Further, the breast feeding is not exclusive as by three months of age, 60% of women from a high socioeconomic group supplement the infant with fresh milk or infant formulas⁴. In Pakistan, initiation of breast feeding may also be delayed or accompanied by giving prelacteal feeds and discarding colostrum. Only 25% mothers initiate breast feeding on the first day and give colostrum to the baby⁵. There is widespread use of prelacteal feeds in the form of honey and ghutti (a traditional herbal preparation). Inappropriate hospital maternity practices, lack of cultural support, emotional stress and pressure of advertising by infant food companies are some factors associated with a reduction in the prevalence and duration of breast feeding.

Pakistan is a developing country with an infant mortality rate (IMR) of 95⁶, mostly attributable to pneumonia and diarrhoeal diseases. The anti-infective and immunological properties of breast milk make breast feeding an important way to prevent infection and a priority in health plan in Pakistan. However, programmes designed to support and encourage breast feeding need to take indigenous beliefs into account⁷. This study was therefore, conducted to investigate the effectiveness of providing simple health messages about "optimal breast feeding practices" to pregnant women in a community in Karachi, Pakistan. The aims of the study were to compare the knowledge of pregnant women about optimal breast feeding in a study group who were educated by lady health visitors and health workers and a control group (not educated in breast feeding practices) and to evaluate a way in which a programme to promote exclusive breast feeding of infants might increase this practice.

Subjects and Methods

A community-based, educational intervention study was conducted from June, 1992 to May, 1993 in two Katchi Abadis (urban squatter settlements) of Karachi. Both squatter settlements were comparable

in demographic and socioeconomic conditions. The population of both the areas was approximately 10,000. It comprised of different groups reflecting the varied ethnicity of Pakistan. Most families had been living there for the past 10 years. Females between the ages of 15-50 years, representing the women in the reproductive age groups, formed about 20% of the population. Majority of houses had adequate water for hand washing, drinking and cooking. Nearly 90% had latrines inside their houses. Majority of the population belonged to the lower middle class (shop keepers, daily wage workers) with an income varying from Rs. 1,500 to 2,500 (\$50-80) per month. Most women were housewives. Literacy status was very low, especially among women, reflecting the national level of 20%. Breast feeding practices also reflected the pattern observed in other parts of the country: prelacteal supplemental feeding, discarding of colostrum, late initiation of breast feeding was a norm. Diarrhoeal disease accounted for 25% of the morbidity of children under five years of age. This background, base line information had been collected previously in a survey conducted by one of the authors (unpublished data).

Selection of pregnant women was done by frequent house to house surveys, conducted by lady health visitors and health workers. Women who intended to breast feed and had no physical disabilities or breast malformations were included in the study. After delivery, babies born prematurely, with low birth weight or with any congenital anomalies were excluded from the study. Mothers with multiple births were not excluded. In both the intervention and control groups, baseline survey was done where certain demographic and socioeconomic parameters were determined to ensure the comparability of both groups. These included number of living children whether mother had previously breast-fed any infants and if so, whether the mother or other family members had made the decision about breast feeding. The mother's literacy status, occupation and ethnicity. A questionnaire was administered by an interviewer to assess the pre-intervention knowledge of mothers regarding the advantages of exclusive breast feeding and prelacteal feeds. Knowledge was estimated by scoring the questions from zero to twenty-two. The scores obtained by women in both groups before and after the study were used to evaluate increase in knowledge.

The intervention consisted of "predefined" health messages that had been pretested on a group of women having the same socioeconomic and literacy status as those in the study group. Messages were pretested with individuals and with groups: the feedback of these women was noted and appropriate changes in the health messages were made. Health education was provided on a one-to-one basis by house visits made by the lady health visitors and health workers. The educators were trained in community motivation and promotion of exclusive breast feeding by resource persons from the lactation management programme. Health messages explained the meaning of exclusive breast feeding, its advantages and stressed the protective role of colostrum and prompt initiation of breast feeding after birth. Mothers were informed about disadvantages of prelacteal feeds and the hazards of bottle feeding in promoting diarrhoea. They were also advised on nutrition and dietary habits and breast care during pregnancy and lactation. These predefined health messages were presented in the form of pictorial flip-charts, photographs representing different breast feeding positions and through verbal communication by trained health workers.

Health messages were usually provided to mothers in - the intervention group on a weekly basis, beginning one month prior to anticipated date of delivery. From one month after delivery to six months post-natal, messages were given at bi-weekly intervals. Messages were delivered on a one-to-one basis through house-to-house visits and group discussions. Women in the control (non-intervention) group were not given health messages. Their practices were monitored in the same way as for the intervention group. Information regarding use of prelacteal feeds and colostrum was collected within one week of delivery. Subsequent information regarding duration of breast feeding and supplemental feeds was collected every week. Health workers and lady health visitors who had initially given health messages made weekly visits to every mother included in the study for 6 months. They recorded the above information on a standard proforma made for this purpose. The outcome variables measured were the

change in the knowledge of mothers regarding “optimum breast feeding” practices and the number of mothers practicing this in each group.

Exclusive breast feeding was defined as total count of calories being provided by breast milk. Optimum breast feeding meant initiation of breast feeding within 1 hour of the baby’s birth, plus occasional prelacteal or interlacteal feeds the first 24 hours]. Prelacteal feeds were oral supplements given to the baby before initiation of breast feeding. Partial breast feeding was oral feeds other than breast milk which supplemented the total caloric intake. Weaning meant initiation of semi-solid food items as supplementary feeding. Data from questionnaires were coded and entered into a computer and analyzed using Epi-Info 5. Differences between the intervention and control groups were compared using chi-square test.

Results

The study was conducted from June 1992 to May 1993. A total of 78 mothers were enrolled in the intervention group (Group I) and sixty-two in the control group (Group 2). During six months of follow-up, 20 mothers could not complete the study, fifteen (8 in group 1 and 7 in group 2) of these dropped out of the study as their babies were stillborn, or died of causes like jaundice and congenital heart defects. Five (3 in group 1 and 2 in group 2) mothers moved to another community and were therefore, considered dropouts. At the end of the study period, information on 120 mothers was included in the analysis (67 in the intervention group and 53 in the control group).

Table. Demographic details of intervention and control group (n=120).

		Intervention n=53	Control n=67
Literacy of mother (illiterate)		70%	65%
Literacy of father (illiterate)		34%	38%
Occupation of mother (housewife)		93%	89%
Income (Rs.)		2598±1896	2522±1647
Presence of TV	Yes	48	40
TV/Radio	No	16	15
Presence of radio	Yes	51	35
	No	19	20
No. of family members		7±4	8±6
Sex of baby	Male	31	35
	Female	36	20

As shown in Table I the two groups were comparable in literacy status, occupation and number of

children. The ranking of the child during the present pregnancy ranged from first-born to fifth-born. Pre-intervention knowledge about breast feeding was found in 29 of intervention group and 32 of control group mothers. The pre-intervention score in the intervention group was 5.5, as compared to 5.1 in controls. Considering a total score of 25, 55% mothers in the intervention and 45% in the control group did not know the advantage of giving colostrum to the baby. Similarly, 56% in the intervention group and 44% control group mothers said breast feeding should be initiated 24 hours after birth. Prolactal feeds were given by 66% mothers in the control group and 31% in the intervention group ($p < 0.05$). The commonly used prolactals included honey, ghutti and rose water. Colostrum was given by 97% mothers in the intervention group and 3% in controls (p

Discussion

Our intervention was effective in promoting early initiation of breast feeding and giving of colostrum to the newborn. Colostrum has a well known protective effect of Secretory Immunoglobulin A (SIgA)^{7,8}. Colostrum is generally regarded as “bad” or “stale” milk⁹. Women in Mali regard colostrum as “dark breast water”, but do not consider colostrum either good or bad and do not discard it¹⁰. A similar study conducted in Pakistan¹ has shown that by 48 hours of age only 50% of the babies had been given colostrum. The average duration of breast feeding varies from 5.5 months in Colombia¹¹, to 18 months in Brazil¹² and 30 months in Bangladesh¹³. Breast feeding practices also vary between the urban and rural population. In a Nigerian study, 100% infants in rural areas were still being breast-fed at 12 months¹⁵. In Brazil after an intervention programme, the duration of exclusive breast feeding rose from 43.2 days to 66.6 days¹⁵. Similarly in Norway, 60% of the mothers wholly breast fed their babies for 9 months¹⁶. A similar programme in Brazil showed exclusive breast feeding by 110 mothers at 3 months of age out of 406 mothers studied. This dwindled to about 5 mothers by the age of 6 months. The duration of breast feeding in Pakistan varies from 14 to 17 months³. In Pakistan, honey and Ghutti are the most commonly used prolactals. Ghutti is traditionally said to cleanse the gut of the newborn. Giving honey to a newborn has religious implications. In our health education messages, it was emphasized that the mother should refrain from giving any kind of prolactal feeds. This advice was followed by 69% mothers in the intervention group. This, even strong traditional behaviours can be modified, if health education is carefully provided.

In this study, we tried to show the impact of frequently given health messages in promoting optimum breast feeding practices. Although we used specially trained community health workers for the purpose, it is possible that the same can be achieved by using the electronic or print media to convey these messages to mothers. In addition, doctors, lady health visitors and paramedics at all levels from teaching hospitals, maternity homes, dispensaries to district hospitals should counsel mothers and women in the ante-natal period to promote breast feeding. Since our study concentrated more on one-to-one personal interactions, the cost of this intervention was higher than might be borne at a national level. It is likely that exclusive breast feeding per se will reduce the incidence of diarrhoea and other infectious diseases and infant mortality in a developing country like Pakistan.

Acknowledgements

Financial support for this research was provided by the Applied Diarrhoeal Disease Research Project (ADDR) at Harvard University by means of a Cooperative Agreement with the U.S. Agency for International Development. The staff at ADDR also provided their technical assistance. To the workers of HELP and to all social workers: Miss Noor Fatima, Rehana, Nazo, Bilquis, Nighat, Shehnaz. many thanks for their help in making this project a success.

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