

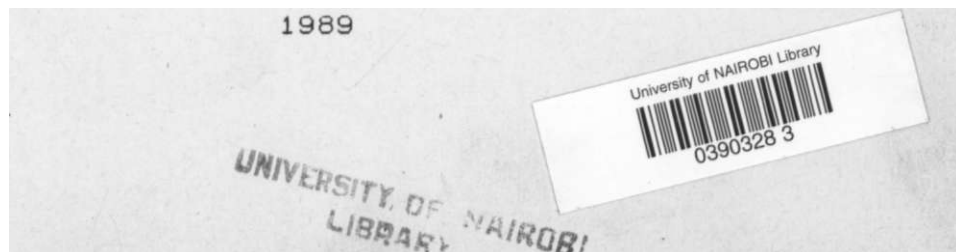
AN EVALUATION OF THE EDUCATIONAL PROGRAMME OF  
BREASTFEEDING INFORMATION GROUP (BIG) IN NAIROBI

BY

WAITHIRA MIRIE

THIS THESIS HAS BEEN ACCEPTED FOR  
THE DEGREE OF MASTERS OF SCIENCE  
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A thesis submitted in part\* fulfillment  
for the Degree of Masters of Science in Applied  
Human Nutrition, Faculty of Agriculture, University  
of Nairobi.



11 -

**DEDICATED**

TO

Catherine Wamaitha Gitu

Steven Gitu Kinga'ngi.

My parents in remembrance of their  
dedication to my education.

## DECLARATION

I, Waithira Mirie hereby declare that this is my own work and has not been presented to any other university

Waithira Mirie

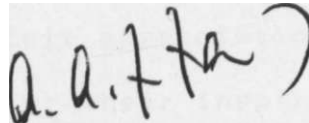
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### ABSTRACT

The main objective of this study was to compare the knowledge, attitudes, and practices of mothers and health workers exposed to the educational programme of the Breastfeeding Information Group (BIG) with those who have not been exposed to the programme. In addition, the knowledge, attitudes and practices of BIG counselors and members of the executive committee were also assessed with respect to their knowledge and practices of breastfeeding and weaning.

The knowledge, attitude and practice (KAP) study took place in Maternal and Child Health Clinics (MCHC) in Nairobi, between January and June 1987. A sample of 150 randomly selected BIG-Exposed mothers was compared with a similar sample of randomly selected NON-BIG Exposed mothers. Similarly a sample of 24 randomly selected BIG-Exposed Health Workers was compared with a similar number of NuN-BIG Exposed health workers. In addition, 12 BIG volunteers and 6 counsellors were included in the study. Thus a total of 366 interviews were conducted for the study.

The BIG-exposed study sample scored higher in the knowledge test than the Non-BIG exposed controls.

The initiation of breastfeeding was largely universal among the entire study sample. The duration of breastfeeding of the youngest child however, was longer among mothers not exposed to the BIG educational programme, than among mothers exposed to it.

The onset of weaning the youngest child of both groups of mothers was significantly different between the two groups. The Non-BIG exposed mothers introduced supplementary foods earlier than the BIG-exposed mothers.

Questioned on the main message delivered in BIG's promotional visual aid (poster) designed to promote and encourage breastfeeding, the majority of respondents identified it to be: " to breast-feed".

**TABLE OF CONTENTS**

	Page
Title .....	i
<b>D e d i c a t i o n</b> .....	i i
Declaration .....	i i i
Acknowledgements .....	i v
Abstract .....	v
Table of Contents .....	v i i
List of Tab]. .....	x i v
List of figures .....	x v i i
List of appendixes .....	x v i i i
<b>CHAPTER 1</b>	
<b>INTRODUCTION .....</b>	
Statement of the problem .....	1
Objectives of the study .....	2
Broad Objective .....	2
Specific Objectives. . . . .	3
Expected benefits from the study .....	3
<b>CHAPTER 2</b>	
<b>REVIEW OF THE LITERATURE .....</b>	
The merits of human breastmilk .....	5
Nutritional properties of human breastmilk .....	5
Immunological qualities of human milk .....	6
Nutritional adequacy of human breastmilk .....	7
Breastfeeding and and its role in fertility .....	11

Cost of breastfeeding versus artificial feeding..12

The impact of breastfeeding on mortality and morbidity..... 12

Psychological bonding in breastfeeding..... 14

Convenience of breastfeeding..... 15

Harmful substances in Breastmilk..... 15

Trends in breastfeeding..... 16

The history of breastfeeding promotion..... 18

Evaluations of breastfeeding educational programmes..... 21

CHAPTER 3

DESCRIPTION OF THE STUDY SETTING..... 26

Breastfeeding Information Group..... 26

The organizational structure of BIG..... 28

The sub-committee and their functions..... 28

Counselling sub-committee..... 30

Publications sub-committee..... 31

Education and Training sub-committee..... 32

International Liason sub-committee..... 32

Outreach and membership sub-committee..... 32

Mother to Mother Network sub-committee..... 33

Kawangware Kabiro Project sub-committee..... 33

Staff Liason Officer..... 33

BIG members of staff..... 34

Financial management of the organization..... 34



BIG's relationship with other agencies.....	35
CHAPTER 4	
STUDY DESIGN.....	36
Type of investigation.....	36
Study methods.....	36
Mothers interview schedule.....	36
Health workers interview schedule.....	37
Research Assistants.....	37
Sample size.....	36
Criteria for selecting BIG-Exposed mothers.....	38
Criteria for selecting NON-BIG Exposed mothers....	39
BIG-Exposed Health Workers.....	40
NON-BIG Exposed Health Workers.....	40
BIG salaried staff (counsellors).....	40
Executive members (volunteers).....	40
Data cleaning and processing.....	41
CHAPTER 5	
RESEARCH IMPLEMENTATION.....	42
Implementation.....	42
Problems encountered.....	43
CHAPTER 6	
RESULTS.....	45
Composition 'of the sample population.....	45
Characteristics of the mothers sample.....	45
Marital status.....	45

Mothers ages.....	46
Education of the mothers.....	47
Occupations of the mothers.....	46
Husbands occupations.....	50
Parity.....	51
Mothers knowledge about breastfeeding and weaning.....	52
Knowledge of mothers on the advantages of breast- feeding to both the baby and the mother.....	55
Mothers attitudes.....	57
BIG poster.....	57
Perceived ideal mean duration of breastfeeding...	61
Mothers practices.....	62
Supplementation.....	62
Duration of breastfeeding.....	63
Bottlefeeding.....	65
Breastfeeding Problems.....	66
Characteristics of the Health Workers sample . . .	71
Job titl.....	71
Qualifying year for the Health Workers.....	72
Parity.....	72
Health workers knowledge about breastfeeding and weaning.....	72
Health workers knowledge about the advantages of breastfeeding to both the mother and the baby....	73
Health workers knowledge about the Internanational	

Code of Marketing Breastmilk Substititutes . . . . .	73
Health workers knowledge about the suckling reflex of newborn babies. . . . .	74
Health workers knowledge about prolactin hormone.	74
Health workers attitudes. . . . .	75
Health workers attitudes about breastfeeding and low birth weight babies. . . . .	75
BIG Poster. . . . .	75
Health workers practices. . . . .	78
Health workers methods of feeding a baby before six months of age. . . . .	78
Health workers experiences of breastfeeding a baby before six months of age. . . . .	78
Characteristics of BIG counsellors. . . . .	79
Counsellors experiences in Counselling . . . . .	79
Ages of the counsellors. . . . .	79
Counsellors knowledge about breastfeeding and weaning. . . . .	79
Counsellors knowledge about the advantages of breastfeeding to both the mother and the baby. . . . .	80
Counsellors attitudes. . . . .	80
BIG poster. . . . .	80
Perceived ideal mean duration to breastfeed by the counsellors. . . . .	80
Counsellors practices of breastfeeding . . . . .	81

Counsellors experiences of breastfeeding a baby before six months.....	81
Counsellors methods of feeding a baby before six months. . . . .	61
Characteristics of BIG volunteers sample.....	82
Education of volunteers.....	82
Occupation of volunteers.....	82
Volunteers years of association with BIG.....	82
Time spent by volunteers on BIG activities.....	82
Knowledge about breastfeeding and weaning by volunteers.....	83
Knowledge about the advantages of breastfeeding to the baby and the mother.....	6m
Volunteers attitudes.....	85
BIG Poster.....	85
Perceived ideal mean duration to stop breastfeeding by volunteers.....	86
Volunteers experiences of breastfeeding a baby before six months of age.....	86
Volunteers methods of feeding infants before six months of age.....	86
CHAPTER 7	
DISCUSSIONS.....	87
The purpose of evaluations.....	87
Mothers.....	87

Health workers.....	97
BIG counsellors.....	95
BIG volunteers.....	100
Summary.....	101
CHAPTER 8	
CONCLUSIONS.....	102
RECOMMENDATIONS.....	105
REFERENCES.....	107
APPENDIXES.....	121

**LIST OF TABLES**

Table	Page
6.1 Distribution of mothers by marital status...	46
6.2 Distribution of mothers by age group.....	47
6.3 Distribution of mothers by education.....	48
“	
6.4 Distribution of mothers by occupation.....	49
6.5 Distribution of husbands by occupation.....	51
6.6 Distribution of mothers by parity.....	52
6.7 Distribution of mothers by test scores on knowledge about breastfeeding and weaning...	54
6.6 Distribution of mothers by test scores on knowledge about advantages of breastfeeding to the baby.....	56
6.9 Distribution of mothers test scores on know- ledge about advantages of breastfeeding to the mothers.....	57
6.10 Mothers’ perceptions of the BIG Poster.....	58
6.11 The messages conveyed by BIG poster as reported by mothers.....	59
6.12 Mothers’ attitudes towards the BIG poster...	60
6.13 Mothers views on the use of BIG poster as a as a tool for promoting breastfeeding.....	60
6.14 The distribution of the index child by age of initiation of weaning.....	62

6.15	Mean duration of breastfeeding of the index child in months.....	65
6.16	Frequency of bottlefeeding by exposure exposure status.....	66
6.17	Reasons for bottlefeeding as reported by mothers.....	67
6.18	Distribution of mothers by source of advice on bottlefeeding.....	66
6.19	Frequency of breast ailments as reported by mothers.....	69
6.20	Distribution of mothers by type of breast-feeding problems experienced.....	69
6.21	Distribution of mothers by types of treatment used to treat the breast ailments.....	70
6.22	Distribution of the Job Titles of the Health Workers.....	71
6.23	Health Workers' attitudes towards the BIG poster.....	76
6.24	Health workers visual perception of the BIG poster.....	76
6.25	The messages conveyed by BIG poster as reported by Health Workers.....	77
6.26	Health Workers' view on the use of BIG poster as a tool to promote breastfeeding...77	
6.27	Distribution of BIG volunteers by test scores on breastfeeding and weaning.....	83

6.28	Distribution of BIG Volunteers by test scores on advantages of breastfeeding to the baby.....	84
6.29	Distribution of BIG Volunteers by test scores on advantages of breastfeeding to the mother.....	85



**LIST OF FIGURES**

Figure	Page
3.1 Organizational structure of BIG.....	29
6.1 Proportion of mothers breastfeeding at each monthly interval.....	64

LIST OF APPENDIXES

1.	Photograph of the BIG poster used to promote breastfeeding and weaning practices to mothers and health workers. . . . .	121
2.	Study definitions. . . . .	122
3.	Provisions of the International Code of Marketing Breastmilk Substitutes as taught by BIG. . . . .	123
4.	Knowledge, Attitudes and Practices interview Schedule for mothers, knowledge test administered to the total study sample, and the evaluation of the BIG poster. . . . .	124
5.	Knowledge, Attitudes and Practices interview Schedule for Health Workers. . . . .	130
6.	Knowledge, Attitudes and Practices Interview schedule for volunteers and counsellors. . . . .	132
7.	BIG hand-outs to mothers. . . . .	134

**CHAPTER 1**  
**INTRQDUCTION**

1.1 STATEMENT OF THE PROBLEM

Although the benefits of breastfeeding have been recognized by researchers, a decline in the practice of breastfeeding has been reported in most parts of the world, especially in urban areas. Many reasons have been given for this decline: employment of mothers-, aggressive advertising of breastmilk substitutes by the infant food industry, the " attitudes of health workers towards breastfeeding and, to a lesser extent. women's misconceptions that breastfeeding would negatively affect their looks, hence their figures.

In order to arrest and reverse this downward trend, promotion groups have been formed all over the world. Their aim is to protect and promote breastfeeding by educating mothers and health workers about the benefits of breastfeeding as opposed to artificial feeding.

In Kenya, the Breastfeeding Information Group (BIG) was formed in 1978, with the aim of improving and maintaining the health of infants and young children by educating mothers and health workers about breastfeeding and proper weaning practices. BIG was started rather informally by a

group of women who felt that there was a need to safeguard the natural way of feeding infants. Their approach was based more on what had been documented elsewhere than on an assessment of local needs.

In 1982, however, a knowledge, attitude and practice (KAP) study on breastfeeding was conducted among health workers in Kenya. The study was a collaborative effort by BIG, the Ministry of Health (MOH), the United Nations Children's Fund (UNICEF), and the Kenya Medical Research Institute (KEMRI). The results of the study showed an over-all lack of knowledge about breastfeeding suggesting that health workers needed to be educated and urged to promote breastfeeding in their daily contacts with mothers (Veldhuis M., et al, 1982).

Although BIG has promoted breastfeeding for the last nine years, there has not been an evaluation of their educational programme to date.

## 1.2 OBJECTIVES OF THE STUDY

### 1.2.1 BROAD OBJECTIVE

The broad objective of this study was to evaluate the knowledge, attitudes and practices (KAP) of mothers, health workers, BIG volunteers and counsellors, concerning breastfeeding and weaning practices.

### 1.2.2 SPECIFIC OBJECTIVES

- \* To assess the KAP of mothers exposed to BIG educational programmes and mothers who have never been exposed to BIG programmes.
- \* To assess the KAP of health workers who have attended a training seminar by BIG, and those who have never been exposed to a BIG training seminar.
- \* To assess the KAP of breastfeeding and weaning of BIG volunteers and members of staff.
- \* To assess the attitudes of mothers, health workers, BIG volunteers and counsellors towards the main visual aid used by BIG to promote breastfeeding.

### 1.3 EXPECTED BENEFITS FROM THE STUDY

This evaluation will provide BIG with an assessment of their educational programme. The results of the evaluation can be used to make the programme more effective and efficient.

In addition, the Ministry of Health (MOH), the Nairobi City Commission and private health centers may want to know what kind of impact BIG is making on their clients. This will enable them to incorporate relevant recommendations in their own programme plans and objectives. The donors of the

programme might want to know whether the programme is achieving its stated objectives.

C H A P T E R 2

R E V I E W O F T H E L I T E R A T U R E

2.1 THE MERIT OF BREASTMILK

It has been proven that human breastmilk is nutritionally superior to any substitute available (Woodbury, 1926; Mata, 1978; UNICEF, 1986; MOH. 1986). Breastmilk is also economical, convenient and acts as a contraceptive for the lactating mother (King, 1985).

2.1.1 NUTRITIONAL PROPERTIES OF HUMAN BREASTMILK

The nutritional properties of human breast milk differ markedly when compared to other milks used in infant feedings. For Example, a comparison between human milk and cow's milk reveals that although cow's milk has more proteins than human milk, the net utilization of protein in breast milk is significantly higher than in cow's milk. The fat content of human milk is higher than in cows' milk. The fat in cows milk has a different fatty acid composition than breastmilk and is poorly digested by infants. Human milk has higher levels of Vitamin C, A, and E than cows milk. The iron in human milk is absorbed more efficiently than that of cows milk. The high sodium content in cows' milk makes it unsuitable for infants because it increases the solute load on the kidneys. The high

solute load may stress the immature kidneys of the infants. Cows milk is also higher in potassium, calcium, and phosphorous, but the calcium to phosphorous ratio is lower in cows milk, which may predispose the infant to hypocalcaemia and tetany (Ebrahim, 1978; Cameron and Hofvander, 1983; Lakhani, et al, 1983).

#### 2.1.2 IMMUNOLOGICAL QUALITIES OF HUMAN BREASTMILK

Human breastmilk has immunological properties that increase an infants' resistance to disease (Jelliffe and Jelliffe, 1978; Cameron and Hofvander, 1983). Breastmilk contains immunoglobins (IgA, IgG, IgM, and IgD). IgA, in particular, is found in large amounts in colostrum and to a lesser extent in mature breastmilk. IgA is not absorbed, but acts in the intestines against certain bacteria and viruses. When levels of immunoglobins IgA, IgG, and IgM are measured in mothers breastmilk in the first week of lactation, and in the feces of their breastfed infants, immunoglobulin IgA was found to be present in high concentrations. In contrast to breastfed babies, bottlefed infants have neither passive immunological protection nor active IgA production (Jelliffe and Jelliffe, 1978; Jatsky, et al, 1985).

The bifidus factor is a nitrogen containing



carbohydrate found in breastmilk. It is necessary for the growth of the bacteria lactobacillus bifidus. These bacteria colonize the gut and produce lactic acid from some of the milk sugars. Lactic acid discourages the growth of harmful bacteria and parasites by making stools acid (Cameron and Hofvander, 1983). A study in Guatemala found that there were no pathogens in the gastrointestinal tract of infants who were exclusively breastfed. Also found in human breastmilk is lactoferrin, a protein that binds iron. The bound iron is therefore not available to harmful intestinal bacteria which require iron for growth. Similarly, lysozyme (an enzyme) is present in breastmilk and is responsible for breaking down certain bacteria and providing protection against various viruses. White blood cells are found in breastmilk in large amounts and phagocytize certain harmful bacteria (Cameron and Hofvander, 1983).

Human breastmilk has been found to offer protection from allergic diseases, such as eczemas. The human breastmilk immunoglobulin IgA again appears to be the substance offering this protection (Cameron and Hofvander, 1983).

### 2.1.3 NUTRITIONAL ADEQUACY OF HUMAN BREASTMILK

Differences in opinion exist concerning the

time during which exclusive breastfeeding adequately meets the nutritional needs of infants (Van Steenberg et al, 1981). Some studies have found that human breastmilk meets all the nutritional requirements of an infant for the first four to six months of life (Creddy, 1981; Underwood and Hofvander, 1982). A study of infants of mothers who were active in the La Leche League-a breastfeeding promotion programme - showed that infants who were exclusively breastfed for twelve months grew perfectly normally at least for the first nine or ten months (Ahn and Maclean, 1980).

Children in developing countries who are breastfed only, have been found to grow normally for the first three months of infancy. Without supplementation growth starts to falter as early as the second month and as late as the sixth (Waterlow and Thompson, 1979; Waterlow and Ashworth, 1980; Underwood and Hofvander, 1982). Other studies have shown that even under optimal conditions, breastmilk alone is not able to provide adequate growth rates after six months of age (Scrimshaw and Underwood, 1980). Some studies have shown that where maternal undernutrition exists and the basic necessities of life are inadequate, growth faltering in exclusively breastfed infants may occur before the infant is three months of age although

the faltering may not be evident until after three months (Water low and Ashworth, 1980; Whitehead, 1979; Jansen, et al, 1965).

Seasonal variation in breastmilk production has been shown in some studies. In Machakos, Kenya, the level of breastmilk output was found to be 405 ml per day in the lean pre-harvest season from mothers breastfeeding infants who were twelve to seventeen months old, and 470 ml in the harvest season (Van Steenberg, 1984). In the Gambia, it has been shown that marginally malnourished mothers of eighteen month old infants can produce 400-500 ml of breastmilk per day (Whitehead, 1979). During the first six months of lactation, malnourished women have been found to produce somewhat less breastmilk (500 ml to 700 ml per day) than well nourished women (600 ml and 700 ml per day) during the first six months of lactation, although the quality of the breastmilk remains largely the same (Jelliffe and Jelliffe, 1978). The lower production of milk in malnourished mothers may lead to a reduced caloric density and hence growth faltering. If milk composition and yield is low, the introduction of complementary foods may be desirable at an earlier age for their infants, than the infants of the well nourished mother. However, this introduces the additional risk of diarrhoea,

often associated with the early introduction of supplementary foods. It has been shown that late and very early introduction of foods are associated with poor growth (Underwood and Hofvander, 1982: CBS, 1982). Research results on the adequacy of breastmilk brought about a compromise that led to the recommendation of four to six months as the best period for introducing complementary foods (Jelliffe and Jellirfe. 1979; Underwood and Hofvander, 1982). Even after four to six montns, breastmilk is of high quality, although the quantity is no longer sufficient to sustain an infant's growth. Thus breastmilk remains an important source of nutrients for the child for a considerable length of time. In Machakos, Kenya, children seven to eighteen months of age were found to be still obtaining fifty percent of the required calories from breastmilk. and in the same study, children in the nineteen to thirty six months age group were found to be getting over ten percent of the required caloric intake from breastmilk (Van Steenberg, 1984). Although breastmilk remains for a long time, a valuable source of nutrients, a study in Brazil found that children breastfed past twelve months had a higher rate of malnutrition (Victora et al, 1984). In Kenya, children breastfed beyond sixteen months have shown higher rates of malnutri-

tion than those already fully weaned. Those breastfed up to fifteen months have shown the advantages of being breastfed (CBS, 1962).

#### 2.1.4 BREASTFEEDING AND ITS ROLE IN FERTILITY

It has been established that breastfeeding suppresses the ovulatory cycle of the mother, and is considered as a major source of protection against consequent pregnancy in most developing countries (WHO. 1983; Huffman, 195a). At least one third of mothers who breastfed their babies continuously for nine months do not resume menstruation during that period (McCann et al, 1981).

A study by WHO found that by four months postpartum, almost all women who were not breastfeeding were menstruating whether they had ever breastfed or not. Those who continued to breastfeed, resumed menstruation much later. Between twelve and seventeen months postpartum, up to sixty percent of non breastfeeding women were pregnant, compared to only five percent of their breastfeeding counterparts (WHO. 1961). Changes in frequency of suckling the breast, lack of night feeding. and early supplementation are the most important factors affecting the maintenance of amenorrhea (Huffman, 1986).

#### 2.1.5 COST OF BREASTFEEDING VERSUS ARTIFICIAL FEEDING

Bottlefeeding has major economic implications for a family (Gueri, 1980; King, 1955). Breastfeeding has been shown to be cheaper than artificial feeding, even when the extra food (500 calories and 20 grams protein) required by the lactating mother is taken into account (Greiner and Aimroth, 1983). An estimate of the cost of complete bottlefeeding as a percentage of the salary for selected occupations in different countries (e.g. hospital cleaners, government clerks and junior staff nurses) showed that ten percent of the salary was needed to feed a 2 months old baby on breastmilk substitutes (Cameron and Hofvander, 1983).

#### 2.1.6 THE IMPACT OF BREASTFEEDING ON MORTALITY AND MORBIDITY

The practice of bottlefeeding is considered especially dangerous in developing countries. This is because it replaces or interferes with breastfeeding, thus denying the child the benefits of breastmilk and increasing the child's risk of disease and hence death (Joseph, 1983). The risk is increased when there is a lack of resources: money to buy enough formula, clean water, fuel, and detergents to sterilize bottles and teats (Clifford, 1984). The fact that many mothers are illiterate or

incorrectly follow instructions given for the preparation of formulas often leads to under-diluted or over-diluted feeds. Over-diluted feeds can result in a condition known as hypernatraemia, which is an electrolyte imbalance frequently seen among others, as a complication of the treatment of diarrhoea in children. Hypernatraemia, if severe may lead to convulsions and death. Under-dilution can result in malnutrition caused by inadequate nutrient intake (Ebrahim et al, 1986). A study in Saudi Arabia showed that over concentrated formula feeds increased the risk of hypernatraemia. Under-dilution was directly attributed to mothers who could not read English numerals on the feeding bottles and therefore measured water haphazardly (O'Donovan et al, 1965). A study in Ivory Coast showed that mothers did not measure the formula powder but added it to the bottle until the mixture appeared to have the correct visual consistency (Clayton, 1984).

It has been shown that, even where socio-economic status is adequate and hygienic conditions are excellent, breastfed babies are healthier than  
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bottlefed babies (Cunningham, 1977, Koopman, et al, 1985). Breastfed infants from malnourished populations in developing countries are larger and heavier than those who are bottlefed (Almroth &

Latham, 1962;.

In the twenties. a study in the United States of America of 22,000 infants showed that mortality was lower at all ages for breastfed infants. In the first nine months of life, bottle-fed babies were a hundred times more likely to die from respiratory diseases and over forty times more likely to die from gastrointestinal diseases than breastfed infants. Mortality rates for partially breastfed infants were found to lie between the other two groups (Woodbury, 1926).

In another study in Brazil, it was shown that the type of milk in an infant's diet was an important risk factor in deaths from diarrhoea and respiratory infections. Children who were breastfed were found to have the lowest risk of death, followed by those who were fed on breastmilk and a milk supplement. Those fed on cows milk and formula alone had the highest risk of death (Victors, et al, 1967). Another study in India showed that breastfed babies made 1.8 visits to the hospital compared to 2.7 visits in the same time interval made by artificially fed infants (Eastwaran and Dharmasraiani, 1967).

#### 2.1.7 PSYCHOLOGICAL BONDING IN BREASTFEEDING

Breastfeeding provides a psychological



bonding or attachment between the mother and child as a result of the close and prolonged contact between them. It has been shown that early and continued contact between the mother and infant helps to establish breastfeeding and to maintain it for a long time (Harfource, 1980).

#### 2.1.8 CONVENIENCE OF BREASTFEEDING

Breastfeeding is convenient, as it does not require elaborate preparations and is easily available (Cameron and Hofvander, 1983). Those who disagree with the convenience of breastfeeding feel that bottlefeeding allows the mother to have time out of the domestic quarters. Mothers can then socialize or return to work, leaving the responsibility of feeding the child to another person (Harfource, 1980).

#### 2.1.9 HARMFUL SUBSTANCES IN BREASTMILK

A number of drugs are transmitted to the mother's milk and the baby may have adverse reactions to them (Pleet, 1984). These includes, anticoagulants. some antibiotics, anti cancer drugs, nicotine from heavy smoking, tranquilizers and sedatives, oral contraceptives to name a few (Pleet, 1984). In view of this, it is best for the nursing woman to avoid medication during lactation,

unless clearly and specifically indicated (Jelliffe & Jelliffe. 1978).

On occasions, breastmilk has also been found to contain radioactive materials and other environmental toxicants (Jelliffe & Jelliffe, 1978).

Human Immunodeficiency Virus (.HIV) has been round in some samples of breastmilk from HIV positive mothers (IBFAN.1967). It is reported that 25-50 percent of babies born to sero-positive mothers are sero-positive at birth, although some of these babies have received only the antibodies from their mothers and not the virus itself. so they return to being sero-negative in a few months (IBFAN, 1987). Because of the benefits that breastmilk confers to the infant. if a sero-positive baby is born, the mother should breastfeed.

The risks of these harmful substance must be carefully considered, before the mother is asked not to breastfeed.

## 2.1. 10 TRENDS IN BREASTFEEDING

There are marked differences in the duration of breastfeeding between rural and urban areas. The duration is shorter in urban areas where there tends to be more intensive marketing of breastmilk

substitutes and where there is pressure on the mother to maintain regular employment (WHO, 1981; Bergevin et al, 1983).

In Kenya, the 1978/1979 Child Nutrition Survey showed that mothers in rural areas breastfed their children for an average of fourteen months, while urban mothers breastfed for an average of ten months. At twenty-four months, forty-two percent of rural children were still being breastfed compared to 10.3 percent of urban children. The use of commercial infant foods was high in urban populations as 72.5 percent of urban children were said to have been given such food at some time compared to only 30.3 percent of rural children (CBS, 1982).

Certain factors have been identified that contribute to the decline in breastfeeding. The education of the mother has been found to be the greatest determinant of feeding behaviour. Educated women in developing countries have been shown to breastfeed for a shorter period of time. They are also more likely to introduce breastmilk substitutes, and to have weaned their babies earlier than the recommended four to six months (CBS, 1980; Nyanzi, 1983; CBS, 1984; Dimmond et al, 1987). In developed countries, the higher the education, the longer the breastfeeding duration (Lawrence,

1985).

Health workers have been shown to be in favour of breastfeeding, although some studies have shown that they lack comprehensive knowledge about its management (Burgess, 1980; Veldhuis et al, 1982; Nyanzi, et al 1983). A study in Nairobi showed that while eighty-five per cent of the women surveyed received antenatal care, less than half of them recalled being told anything about breastfeeding. Seventy-seven percent of the women surveyed had given birth in a health facility, but only fourteen percent recall receiving any information on infant feeding at that time, and half of these fourteen percent report being given the false information that exclusive formula feeding was best for their child (Winikoff, et al, 1983).

## 2.2 THE HI'STORY OF BREASTFEEDING PROMOTION

Criticism of the advertising practices of infant formula companies in developing countries received international recognition in 1974, from Swiss and British activists (Chetley, 1979). Church groups in the United States of America, such as the National Council of Churches, Interfaith Centre on Corporate Responsibility (ICCR), and the Infant Formula Action Coalition (INFACT), mounted awareness campaigns that included a consumer boycott of

Nestle' Products la major producer of infant formula). The group had carried out research on the marketing practices of baby food companies and concluded that marketing methods were unethical and detrimental to the health of children, particularly in developing countries (Lawrence, 1985). The boycott was called off in 1984, when INFACT was satisfied that Nestle had complied with the International Code of Marketing Breastmilk Substitutes (Lawrence, 1965).

In 1979, a WHO/UNICEF meeting proposed an International Code of Marketing Infant Formula and other breastmilk substitutes. This code received endorsement by the World Health Assembly in 1980. The executive board of WHO recommended a draft code to the 34th World Health Assembly in May 1981. The code recommended the following tenets:

- \* that advertising of breastmilk substitutes directly to the public be restricted;
- \* that giving formula samples to new mothers, unless their infants had to be on breastmilk substitutes for health reasons, be forbidden;
- \* that personnel paid by manufacturers of breastmilk substitutes be forbidden from working in the health care systems;
- \* that inducements to health workers to

promote commercial products be eliminated:

- \* that new formula products include information about the appropriate use of the products and the superiority of breastmilk and to promote breastfeeding through adequate information and education (WHO Code, 1981).

The code was supported by 119 nations, with only the U.S.A. voting against it. The U.S.A. delegate to the WHO forum subsequently resigned his post in protest against his government's instructions to vote against the code. The U.S.A. claimed that marketing promotion practices for infant formula was not a significant factor in the decline of breastfeeding in developing countries or elsewhere, given that evidence in the U.S.A. showed that breastfeeding was on the increase (Lawrence, 1985). All countries were asked to formulate their own codes relevant to their own experience. In 1983, Kenya drafted its own code in accordance with the WHO code regulations (Kenya code, 1983). In 1979, International Baby Food Action Network was established to coordinate and monitor the pressure campaigns of infant formula companies, and to increase efforts to promote breastfeeding around the world (IBFAN, 1979). IBFAN is a coalition of voluntary organizations in

both developing and developed countries. They try to improve child health and nutrition through the promotion of breastfeeding and by eliminating the irresponsible use of artificial infant foods (IBFAN. 1979).

### 2.3 EVALUATIONS OF BREASTFEEDING EDUCATIONAL PROGRAMMES

Breastfeeding promotion groups have been in existence since 1956, when the La Leche League in the U.S.A. was formed (LLG, 1981). In developing countries, breastfeeding promotion groups were started in the seventies (Helsing, 1982).

It has been shown that the successful implementation of any intervention programme is dependent on the following:

- the appropriate selection of the target groups,
- \*an effective delivery system,
- adequate community participation,
- monitoring and supervision.

Their success can be judged by the impact they make on the health of the target groups (Sen, 1984). Educational programmes aimed at promoting and encouraging breastfeeding have been conducted in various parts of the world. In Colombia, a campaign aimed at pregnant and breastfeeding women in rural and urban populations and among the poorest thirty percent of the population was set up using

radio, posters and health workers. The campaign resulted in an increased demand for advice on breastfeeding in hospitals, medical centres, surgeries and the campaign office. Baby food companies responded by promoting breastfeeding and baby food products simultaneously (Restrepo, 1981).

In Canada, a kit was assembled containing information on the physiology and management of breastfeeding as well as the results of recent scientific research on breastfeeding. Included in the kit was a colour poster and a list of professional contacts for follow up. The kit was distributed to 40,000 people in the medical profession, including physicians, hospital staff, and public health nurses. Out of the 40,000 people who were sent kits, a sample of 3,200 were given questionnaires. As a result those who received the kit responded that they had used it to increase their knowledge of the importance of breastfeeding and to augment their counselling skills (Myres, et al, 1981).

In Barbados, the National Food and Nutrition Survey in 1969 revealed that there was a relatively low level of breastfeeding among mothers with infants under one year of age. As a result of these findings, a concerted effort was made by health workers to increase the percentage of



mothers fully breastfeeding infants three to six months. Of the mothers exposed to the campaign, ninety-one percent stated that they had decided to breastfeed before delivery, and seventy-one percent claimed that they were well advised and adequately prepared for breastfeeding at antenatal clinics (Ramsey, 1983).

Changes in hospital practices can lead to an increase in the proportion of women initiating breastfeeding. Studies have shown an increase in breastfeeding in maternity wards when health staff are supportive of breastfeeding. When hospital staff also breastfeed their own children, they are more likely to encourage it in others (Winikoff and Baer, 1980). In the Philippines, changes in hospital routines led to a doubling of the proportion of women breastfeeding. The new hospital routines shortened the period between delivery and initiation of breastfeeding, allowed rooming in, promoted breastfeeding on demand, and prohibited infant formula distribution (Clavano, 1981). A concerted effort by BIG counsellors and health workers in a private Nairobi Clinic also brought about changes in breastfeeding attitudes and habits (Lakhani, 1984). A study in a hospital in Bombay that promoted breastfeeding and implemented a rooming-in policy (whereby the mother stays with her

newborn throughout her stay in hospital) saw a decline in the money spent for drugs and glucose saline infusions because of the lower incidence of diarrhoea in breastfed babies (Anand, 1981).

A project in Honduras called Proalma (Proyecto de Apoyo a la Lactancia Materna) which aimed at increasing breastfeeding duration, defaying supplementation, and decreasing the incidence of bottlefeeding in hospitals, showed significant improvement in all areas. Seventy-five percent of the health workers who had been given training in breastfeeding practices were shown to recommend breastfeeding in 1985, compared with only forty percent when the project did the baseline survey in 1982. Seventy percent of the women were shown how to breastfeed in 1985 compared with less than ten percent in 1982 and over seventy percent of infants were still breastfed at one year in 1985 compared with thirty-five percent in 1982. The project showed savings of an estimated 14,500 dollars per year. Before the campaign this money was needed for drugs to contract the uterus of mothers after birth, infant formula, and feeding bottles and teats (Mothers & Children, 1987).

In 1977, in Papua, New Guinea, promotion of infant formula was banned and feeding bottles could only be obtained on prescription from health

workers. Breastfeeding was shown to increase from sixty-five to eighty-five percent (Baer, 1981; Eiddulph, 1983).

Diarrhoeal diseases account for a major proportion of infant mortality as well as morbidity in developing countries. Theoretical calculations show that a typical breastfeeding campaign may reduce diarrhoea mortality by 24-27 percent among infants aged from birth to five months, and by eight to nine percent among children under five years of age (Feachem, et al, 1984).

### CHAPTER 3

#### DESCRIPTION OF THE STUDY SETTING

##### 3.1 BREASTFEEDING INFORMATION GROUP

As mentioned earlier, this evaluation focused on the educational activities of the Breastfeeding Information Group (BIG). This organization is involved in promoting breastfeeding and proper infant weaning practices to mothers and health workers in Maternal and Child Health Clinics, and maternity wards in Nairobi.

The offices of BIG are situated in Westlands, Nairobi. Nairobi is the capital of Kenya and one of the eight provinces of the country. Nairobi's population was projected to be 1.5 million people in 1985 (CBS, 1983). The 1979 national census showed that 15.1 per cent of Kenya's population was urban with Nairobi accounting for 37 per cent of urban population (CBS, 1981).

BIG was formed in 1978 and registered as a non-governmental organization under the Kenya Societies' Act in October of the same year. The group was formed by several women interested in improving and safeguarding the health of infants and young children through the promotion of breastfeeding and proper weaning practices. It is a voluntary organization managed by volunteer members

and a small salaried staff. Their goal 'is to establish and maintain an improved level of breastfeeding and weaning practices by providing accurate information about breastfeeding, weaning practices and the Code of Marketing Breastmilk Substitutes.

Programme objectives, which are supported through their constitution, are as follows:

- (i) to provide accurate information on breastfeeding,
- (ii) to encourage the practices of breastfeeding,
- (iii) to help anyone who needs assistance in breastfeeding,
- (iv) to effect both the practices and attitudes towards breastfeeding of health and health institutions,
- (v) to raise public awareness and knowledge of the importance of breastfeeding.

The organization tries to meet these objectives through various educational programmes. This is achieved through dissemination of information on breastfeeding and infant nutrition through various educational methods such as:

- (i) group lectures,
- (ii) individual counselling,
- (iii) seminars,
- (iv) developing educational materials i.e.

posters, newspapers, magazines, radio  
and television

### 3.1.1 THE ORGANIZATIONAL STRUCTURE OF BIG

Figure 3.1 illustrates the organizational structure of BIG. Decision making is the responsibility of the executive committee which consists of the office bearers and the sub-committee chairmen. The executive consists of office bearers, including, the chairman, vice chairman, secretary, and treasurer.

The executive meets weekly and is responsible for the management of the organization. The members of the executive committee are volunteers and are elected during the Annual General Meeting (AGM). They have tenureship of one year and may be re-elected as stipulated in the constitution. The members of the executive must be fully paid members and be dedicated to the organizational objectives. Monthly meetings are held to discuss any new business matters pertaining to the organization.

### 5.1.2 THE SUB-COMMITTEES AND THEIR FUNCTIONS

BIG tries to achieve its objectives through the activities undertaken by the nine subcommittees

FIGURE 3.1

THE ORGANIZATIONAL STRUCTURE OF BIG

EXECUTIVE COMMITTEE

-Chairman

-Treasurer

-Secretary

-Vices

-Sub committee chairman

-Staff liason officer

Chairman

Coordinator

Secretary

Messenger

ALL SUBCOMMITTEES AND THEIR MEMBERS

Each sub-committee consists of a chairman, vice chairman and its members. The members serve on a committee related to their own interest and experience. The activities of these sub-committees largely depends on the time available to its volunteer members. The following is a description of each of the sub-committee and its activities.

#### 3.1.2.1 COUNSELLING SUB-COMMITTEE

The major focus of this study was based on the counselling activities planned and implemented by this sub-committee. The counselling sub-committee is comprised of full time salaried counsellors, a chairman and vice chairman. The responsibility of this committee is to promote breastfeeding and infant weaning practices to mothers and health workers, plus any member of the public who might need help in this area.

The counsellors work is in private and government health care facilities in Nairobi. The Maternal and Child Health Clinics, where the counsellors primarily lecture mothers, offer outpatient services for mothers and their children. The mothers are provided with both antenatal and postnatal care, and their children's growth is monitored. In addition, immunization and treatment for minor conditions is provided to their children.



The counsellors report to the centres between 7-8 a.m. to give their educational lectures to mothers before the other services at the MCHC are started by the health workers. The mothers listen to the lectures while they are waiting to be attended.

The counsellors use teaching materials produced by BIG (see appendix). They use several approaches to provide this information, namely teaching sessions on an individual basis, group sessions; or mass education in public places. Apart from educating mothers and health workers in Nairobi, the counsellors are also involved in outreach activities outside Nairobi. They participate in show displays for the purpose of disseminating breastfeeding information to the public, participate in seminars as resource persons, and answer letters of clients requesting information about breastfeeding and weaning outside Nairobi.

#### 3.1.2.2 PUBLICATIONS SUB-COMMITTEE

The responsibility of designing and printing visual aids and pamphlets lies with this sub-committee. They also print the newsletter that is distributed bi-monthly to BIG members. The messages that are contained in these materials have to be approved by the executive committee to ensure uniformity.

### 3.1.2.3 EDUCATION AND TRAINING SUB-COMMITTEE

This sub-committee works closely with the executive committee, especially the treasurer. They send budget proposals to prospective donors, monitor the funds and ensure their use as designated in the proposal and agreed upon by the donors.

### 3.1.2.4 INTERNATIONAL LIAISON SUB-COMMITTEE

This sub-committee advises and assists other African countries that might want to start a breastfeeding promotion group similar to BIG. Through BIG, this sub committee is a member of the International Breastfeeding Affiliation (IBA). IBA tries to further the effectiveness of mothers breastfeeding promotion groups all over the world by representing their interests and providing them with assistance and encouragement.

### 3.1.2.5 OUTREACH AND MEMBERSHIP SUB COMMITTEE

The responsibility of promoting breastfeed- ing and infant feeding practices in educational institutions and women groups lies with this sub- committee. They are also responsible for recrui- ting new members to BIG. The members must be eighteen years of age and pay a membership fee of twenty shillings per year or two hundred shillings

for life membership. At the time of writing this thesis there were 575 members of BIG.

#### 3.1.2.6 MOTHER TO MOTHER NETWORK SUB-COMMITTEE

This sub-committee runs a community based health care programme in Kakamega district. It aims at involving the whole community in identifying their health problems, planning programmes, and evaluation. In June 1987, this sub-committee withdrew its BIG membership. The specific reasons as to why these sub-committees withdrew has been detailed in another organizational evaluation in which the author of this paper participated.

#### 3.1.2.7 KAWANGWARE KABIRO PROJECT SUB-COMMITTEE

This sub-committee runs a community health centre in a peri-urban area of Nairobi. This health post is run with the cooperation of the Institute of Cultural Affairs. In 1987, this sub-committee withdrew its BIG membership.

#### 3.1.2.8 STAFF LIAISON OFFICER

This volunteer member is responsible to the BIG salaried members of staff. Her responsibility is to liaise with the salaried staff, mainly the counsellors. She reports matters of concern about employees to the executive committee for further

consideration.

### 3.2 BIG MEMBERS OF STAFF

Eight salaried members of staff include the eight counsellors: six of them in Nairobi and two of them in Kakamoga. A coordinator, secretary, part-time accounts officer, and a messenger are based in the Nairobi office.

#### 3.2.1 FINANCIAL MANAGEMENT OF THE ORGANIZATION

The fiscal authority of the organization lies with the executive committee. The major funds for the organization have been given by the following international donors :

(i) The Norwegian International Aid for Development (NORAD) which has been contributing funds for office rent, water bills, electricity bills, and salary for the four counsellors and a part-time accounts officer.

(ii) Oxfam had been paying the salary for the coordinator and one counsellor before their withdrawal from BIG in 1987.

(iii) The United Nations Children's Fund (UNICEF), which donates money for publications and visual aids, pays the secretary's salary, and donates equipment to BIG.

(iv) The Danish International Development

Agency (DANIDA), previously paid salary for one counsellor before they withdrew their funds in 1986.

(v) The Ford Foundation supported the Mother to Mother project in Kakamega, and paid the salary for the two staff members.

(vi) The money that is collected from general membership fees is used to augment finances from other donors in general support of the organization.

(vii) Other sources of money for the organization include individual donations, and sales from publications.

#### 3.4 BIG RELATIONSHIP WITH OTHER AGENCIES IN KENYA

BIG works closely with the Ministry of Health (MOH), the International Baby Food Action Network (IBFAN), the National Christian Council of Women in Kenya (NCWK), and other agencies that are involved or interested in promoting breastfeeding. The MOH organizes breastfeeding seminars for their staff, and BIG counsellors serve as resource persons (BIG Publications. 1982).

## CHAPTER A- STUDY DESIGN

### 4.1 TYPE OF INVESTIGATION

This is a cross-sectional comparative study evaluating the knowledge, attitudes, and practices of mothers and health workers about breastfeeding and weaning (BIG-exposed and Non BIG-exposed). In addition, counsellors and the executive volunteer members of BIG responsible for the educational programme to mothers and health workers were similarly evaluated for their knowledge, attitudes and practices with respect to breastfeeding and weaning.

### 4.2 STUDY METHODS

Different interview forms were developed for mothers, health workers, BIG counsellors and volunteers. In addition, a knowledge test consisting of seventeen questions about breastfeeding and weaning was given to the total study sample.

#### 4.2.1 MOTHERS INTERVIEW SCHEDULE

The interview schedule for mothers was developed from information contained in the BIG pamphlets (hand outs to mothers). The same information is given to them in the course of counselling. BIG-exposed mothers were identified by two

questions. The first question was to whether the mother had been given breastfeeding counselling (and if so, by whom) and the second question was whether she had ever heard of BIG.

Information was obtained about the mothers' age, marital status, education, obstetrical histories, history of breast problems, practices of bottlefeeding, and their attitude towards the main visual aid used by BIG to promote breastfeeding.

#### 4.2.2 HEALTH WORKERS INTERVIEW SCHEDULE

The interview schedule for health workers, although based on the same information as the mothers interview schedule, contained extra questions about the International Code of Marketing Breastmilk Substitutes, the physiology of the breast, and about the nutrients in breastmilk. These extra questions were taken from training materials used by BIG to train health workers.

#### 4.3 RESEARCH ASSISTANTS

The principal researcher was assisted by two field assistants, who were trained for one week. The training included briefings on the objectives of the study, methods of selecting the study sample, and the researchers expectations of their work. These assistants were also trained in inter-

personal skills. that is, how to introduce themselves to the study population, how to interview, and how to ask questions properly to ensure that they are understood. These assistants were supervised on a daily basis to ensure that they were following proper data collection methods. The data forms were checked for completeness during the field study.

#### 4.4 SAMPLE SIZE

The sample for the study group comprised 150 mothers and twenty-four health workers (BIG-Exposed). The control group consisted of 150 mothers and twenty-four health workers (Non BIG-Exposed). In addition, twelve executive volunteers and six counsellors from BIG were included in the study.

##### 4.4.1 CRITERIA FOR SELECTING BIG-EXPOSED MOTHERS

BIG-Exposed mothers were selected using the systematic sampling method to determine the sampling interval from fifteen MCHC (which were randomly selected from thirty-eight BIG-Exposed clinics). The sampling interval was determined by taking the average daily attendance of one to three months from the clinic register, as a sampling frame.



Once the interval was calculated, the starting point for selection was randomly chosen. The daily clinic attendance ranged from fifty to 150 mothers. The mean daily attendance was used to calculate the sampling interval of ten mothers per clinic. The mothers were interviewed at the completion of their assessment with health workers. They were selected only if they had been given counselling by BIG and if they had at least one child, in order for them to be able to describe their practice of breastfeeding and weaning.

#### 4.4.2 CRITERIA FOR SELECTING NON-BIG EXPOSED MOTHERS

Similarly the Non-BIG Exposed mothers were selected using the systematic sampling method to determine the sampling interval. The sampling interval was determined by taking the average daily attendance of one month from the clinic register, as a sampling frame. A sample of thirty mothers were selected from five non contaminated MCHC. These clinics had not been exposed to BIG counselling. They offered similar maternal and child health services, as the BIG-Exposed clinics. The starting point for selection of mothers was randomly chosen. The mothers were selected if they had had at least one child, in order for them to be

able to describe the practice of breastfeeding and weaning.

#### 4.4.3 BIG-EXPOSED HEALTH WORKERS

The BIG-Exposed health workers were randomly selected from a list of BIG seminar participants. The seminar was one of BIG's most recent training sessions for health workers.

#### 4.4.4 NON-BIG EXPOSED HEALTH WORKERS

The Non-BIG Exposed health workers were selected from the Non-BIG Exposed MCHC. The Non-BIG Exposed mothers sample was selected from the same clinics. All available health workers dealing with mothers and children in these clinics were interviewed. In addition, they were asked whether they had attended any training seminar by BIG.

#### 4.4.5 BIG SALARIED STAFF (COUNSELLORS)

All six counsellors employed by BIG to counsel mothers and health workers were interviewed.

#### 4.4.6 EXECUTIVE MEMBERS (VOLUNTEERS)

Twelve members of the executive committee were interviewed.

#### 4.5 DATA CLEANING AND PROCESSING

Data was cleaned to ensure that all questions in the interview schedule had been completed and that responses were consistent. Open ended questions were coded. All interview forms were checked for missing information. Data was entered in the computer "sidekick" programme, and analyzed with the use of 'Statistical Package for Social Sciences' (SPSS/PC) programme .

**CHAPTER 5**  
**RESEARCH IMPLEMENTATION**

5.1 IMPLEMENTATION

Before research can be carried out in Kenya, a clearance permit has to be obtained from the Office of the President. Application for the permit regarding this research, along with all the necessary documents (permit fees, copy of the research proposal, two passport size photographs, and application forms) was made in August 1986. The permit was granted within one week of application.

In August and September 1986, organizational meetings were held at the BIG office, to determine the extent and nature of their inputs to this evaluation. During these meetings, information about the target groups, their area of coverage and non coverage, plus general information about the organization was obtained.

During this time, the interview forms were prepared and my research advisors and an epidemiologist were consulted about the study instruments.

In October, the advisors examined the study instruments and gave suggestions for modifications. In the same month, the principal researcher attended a conference in Nairobi organized by BIG.

Most of the international breastfeeding promotion groups from sixteen countries were represented. The conference addressed the issues of promoting breastfeeding and proper weaning practices.

Before conducting the pilot survey, another research permit had to be obtained from the Medical Officer of Health (MOH) in charge of Nairobi City Commission Maternal Child Health Clinics (MCHC).

In November 1986, the advisors' approval was given for testing the-study instruments. A preliminary survey was done in December 1986. The study instruments were modified before they were typed and photocopied.

Data collection was started in January and was completed by June 1987, after a total of 366 interviews had been completed.

In June 1987, the data were cleaned and open ended questions were coded. Although the data were scrutinized at the end of every field day, thorough data cleaning and consistency checks were undertaken at this time.

In July 1987, data was entered into the computer for processing and analyzing.

## 5.2 PROBLEMS ENCOUNTERED

The data collection phase took longer than expected, as the majority of clinics in the study

areas conducted the MCHC services in the mornings. As mothers could only be interviewed at that time, usually one clinic could be covered per day. On some days the required sample from a particular clinic could not be obtained and therefore the interviewing was carried over to the next day.

Health workers proved very difficult to locate. They were often on leave, off duty for a day or a week, or very busy at the clinic and, therefore, could not be interviewed. In some cases this necessitated several visits as the interview schedule could not be left with them. It was also difficult to obtain information from BIG volunteers as they work in other organizations. BIG counselors were also difficult to locate at the clinics in which they were scheduled to teach. Some of the individual institutions required that permission be sought from them before interviewing their clients. Authorization procedures proved to be time consuming, as seeing the administrators and awaiting their responses in several cases took one month.

## CHAPTER 6

### RESULTS

#### 6.1 COMPOSITION OF THE SAMPLE POPULATION

The sample population comprised of randomly selected mothers and health workers. In addition, BIG volunteers and BIG salaried members of staff were also surveyed. The sample of mothers was represented by two groups: 150 BIG-exposed, and 150 Non-BIG exposed. The health workers sample was similarly represented by two groups: 24 BIG-Exposed, and 24 Non-BIG exposed. The sample from BIG was comprised of 12 volunteers and 6 paid counsellors. Thus a total of 366 interviews were conducted for the study.

#### 6.2 CHARACTERISTICS OF THE MOTHERS SAMPLE

##### 6.2.1 Marital Status

The sample population of mothers comprised both married and single women. Most women were married (258 or 86.0%). Single in this case meant that the women had never been married. Table 6.1 shows the distribution of mothers by their marital status and exposure. There was no statistically significant difference ( $P > .05$ ) between the two samples.

Table 6.1 DISTRIBUTION OF MOTHERS BY MARITAL STATUS

STATUS	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
MARRIED	132	88.0	126	84.0
	18	12.0		
SINGLE			24	16.0
TOTAL	150	100.0	150	100.0

#### 6.2.2 Mothers' Ages

The mean age for the mothers was 25 years with a median age of 24 and a mode of 23. The mothers' ages ranged from 17 to 40 years. Most of the mothers 253 (84.3%) were between 20 and 34 years of age. Table 6.2 shows the age distribution of the two groups of mothers. The group 17 to 19 has a 3 year interval and the age group 20-39 are divided by five year intervals. Excluding the 40 year old mother in the BIG-Exposed group, the Chi Square-test showed that there was no statistically significant difference between the two groups. The BIG-Exposed mothers had a mean age of 25.3 years compared to the Non-BIG Exposed mothers with a mean age of 24.8 years.



Table 6.2 DISTRIBUTION OF MOTHERS BY AGE GROUP

AGE	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
17-19	12	8.0	16	10.7
20-24	64	42.7	69	46.0
25-29	42	28.0	44	29.3
30-34	26	17.3	6	5.3
35-39	5	3.3	13	8.7
40+	1	0.7		
TOTAL	150	100.0	150	100.0

Chi Square Test=13.89      DF=4      P>.05

### 6.2.3 Education of the mothers

The mothers' educational qualifications were grouped into six major categories. Table 6.3 gives the distribution of mothers by their educational qualifications and exposure. The Chi Square-test showed that there is no statistically significant difference (P>.05) between the two groups of mothers.

Table- 6.3 DISTRIBUTION OF MOTHERS' BY EDUCATION\*

EDUCATION	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
NO SCHOOL	12	8.0	13	8.7
< or Std 7	52	34.7	44	29.3
Form 1-3	27	18.0	<b>26</b>	17.3
Form 4	48	32.0	48	32.0
Form 5-6	5	3.3	11	7.3
Post Form 6	6	4.0	<b>8</b>	5.4
TOTAL	150	100.0	150	100.0

Chi Square=3.26125

DF=5

P>.05

#### 6.2.4 Occupation of the mothers

The majority of the mothers (216 or 72.0 %) were housewives, that is. they were not in wage employment they worked in their own homes. Unskilled laborers included small-scale vegetable sellers, cooks, maids, and factory workers. The skilled laborers included clerks, and tailors.

\*In Table 6.3, the % column in the Non-BIG Exposed has been rounded to 100%.

There were 4 (1.3%) mothers who had been trained as teachers and nurses. Only 2 (0.7%) were professionals (economists). Table 6.4 shows the distribution of the two groups' of mothers by their occupations. As can be seen, there were significantly more mothers in the skilled labor and professional groups among the BIG-Exposed mothers than among the NON-BIG Exposed ones. Excluding the professionals in the BIG-Exposed group, the Chi Square-test showed that there was a statistical significant difference ( $P < .05$ ) between the two samples.

Table 6.4 DISTRIBUTION OF MOTHERS BY OCCUPATION

OCCUPATION	BIG EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
HOUSEWIFE	93	62.0	123	32.0
UNSKILLED LABOR	16	10.7	18	12.0
SKILLED LABOR	35	23.3		6.0
PROFESSIONALS	6	4.0		
TOTAL	150	100.0	150	100.0

Chi Square Test=19.53      DF=2      P<.05

### 6.2.5 Husband's occupations

Most men (28 or 96.1%) were reported by their wives to be formally employed. The men who worked as unskilled laborers included cleaners, office messengers, and drivers. There were 71 (27.5%) husbands' who worked as clerks and welders. There were 45 (17.4%) men who were professionals (accountants and lecturers). Only 10 (3.9%) men reportedly were unemployed. Their wives could not explain how the latter earned their living or supported their families. It can only be assumed that they were supported by their wives, or that they engaged in various other income generating activities such as brewing "local brews". Table 6.5 shows the distribution of the husband's occupation as reported by their wives in both groups. Excluding the ten unemployed husbands in the sample, the Chi Square-test showed that there was a statistically significant difference ( $P < .05$ ) between the two groups. Husbands of BIG-Exposed mothers were holding more senior job positions.

Table 6.5 DISTRIBUTION OF HUSBANDS BY OCCUPATION

OCCUPATION	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
UNEMPLOYED	2	10.5	2	6.3
UNSKILLED LABOR	57	43.2	75	59.5
SKILLED LABOR	44	33.3	27	21.4
PROFESSIONALS	29	22.0	16	12.6
TOTAL	132	100.0	126	100.0

Chi Square Test=9.92      DF=3      P<.05

#### 6.2.6 Parity

The majority of mothers (107 or 35.7%), had given birth to one child (.were primiparous). Table 6.6 gives the distribution of mothers by the number of their live children. The Chi Square-test showed that there is no statistically significant difference (F.>.05) between the two groups.

Table 6.6 DISTRIBUTION OF MOTHERS BY PARITY\*

NO. OF CHILDREN	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
1	54	36.0	53	35.3
2	36	24.0	34	22.7
3	32	21.3	30	20.0
4	11	6.1	14	9.3
5	11	7.3	12	6.0
>=6	5	3.3	7	4.7
TOTAL	150	100.0	150	100.0

Chi Square Test=0.66                      DF=5                      P>.05

### 6.3 MOTHERS KNOWLEDGE ABOUT BREASTFEEDING AND WEANING

Both groups of mothers were given a knowledge test on breastfeeding and weaning. The test contained 17 questions. Each question answered correctly accounted for 1 point, therefore, the maximum point the mother could obtain was 17 points. As it can be seen, no mother attained the maximum score of 17 points. There was a highly

\*In Table 6.6, % column in BIG-Exposed has been rounded to 100%.

statistically significant difference  $tP=.000$  between the two groups of mothers in their test scores. The one way analysis of variance showed that the scores were higher in the BIG-Exposed group, as illustrated in Table 6.7. Both groups test scores are normally distributed. The mean test scores for the BIG-Exposed group is 11.4, compared to 6.1 mean score for the NON-51G Exposed. Although there was a statistical significance in the mothers occupations, when their occupations are controlled for, the BIG-Exposed mothers had better test scores. A comparison between 93 BIG-Exposed housewives and 123 NON-BIG Exposed housewives revealed that BIG-Exposed mothers had a mean test score of 11.3 compared to 8.1 for the NON-BIG Exposed. Therefore their difference in occupation did not statistically affect their test scores.

Table 6.7 DISTRIBUTION OF MOTHERS BY TEST SCORES  
ON KNOWLEDGE ABOUT BREASTFEEDING AND  
WEAN ING

TEST SCORES	BIG -EXPOSED			NON-BIG EXPOSED		
	N	%	Cum X	N	%	Cum X
3	.	.		4	2.7	2.7
4	.	.		4	2.7	5.3
5	1	.7	.7	12	8.0	13.3
6	3	2.0	2.7	13	8.7	22.0
7	4	2.7	5.3	23	15.3	37.3
8	1	.7	6.0	31	20.7	58.0
9	15	10.0	16.0	25	16.7	74.7
10	22	14.7	30.7	17	11.3	86.0
11	30	20.0	50.7	11	7.3	93.3
12	35	23.3	74.0	4	2.7	96.0
13	18	12.0	86.0	3	2.0	98.0
14	10	6.7	92.7	2	1.3	99.3
15	10	6.7	99.3	1	.7	100.0
16	1	.7	100.0	-	-	-
TOTAL	150	100.0		! 150	100.0	



6.3.1 Mothers knowledge about the Advantages of breastfeeding to the baby and to the mother

All mothers were asked to name three advantages of breastfeeding to the mother and three to the baby. Mothers who could not correctly name a single advantage of breast feeding received a zero score. Mothers who correctly named one, two, or three advantages received. 1, 2, 3 scores respectively. Table 6.8 shows the distribution of EIG-Exposed and NON-BIG Exposed mothers scores on the advantages of breastfeeding to the baby, and Table 6.9 gives the distribution of BIG-Exposed and NON-BIG Exposed scores on advantages of breastfeeding to the mother. The one way analysis of variance showed that there was a highly statistically significant difference ( $P=.000$ ) in the scores for both the advantages of breastfeeding to the mother and to the baby. The scores were higher in the BIG-Exposed group.

Tab 1 & 6.6 DISTRIBUTION OF MOTHERS BY TEST SCORES  
ON KNOWLEDGE ABOUT ADVANTAGES OF BREAST-  
FEEDING TO THE BABY

BIG-EXPOSED		NON-BIG EXFOSED	
N	%	N	%
26	18.7	14	52.0
67	58.0	57	38.0
32	21.3	15	10.0
3	2.0		
150	100.0	150	100.0

Table 6.9 DISTRIBUTION OF MOTHERS TEST SCORES ON KNOWLEDGE ABOUT ADVANTAGES OF BREAST-FEEDING TO THE MOTHER

SCORES	BIG-EXPOSED			NON-BIG EXPOSED		
	I	N	%	I	N	%
0	1	50	33.3	1	110	73.3
1	1	53	35.3	1	33	22.0
2	1	33	25.3	!	5	3.3
3	1	9	6.1	1	2	1.4
TOTAL	1	150	100.0	!	150	100.0

#### 6.4 MOTHERS ATTITUDES

##### 6.a.1 BIG (Poster)

There was no difference in what both the BIG-Exposed and the NON-BIG Exposed mothers reported to have seen in the poster (see appendix 1) used to promote breastfeeding as shown in Table 6.10. Both groups of mothers had similar responses about the messages conveyed in the poster, as shown in Table 6.11. They both expressed positive views about the poster, as shown in Table 6.12 and passed it as an appropriate tool to use in promoting breastfeeding as shown in Table 6.13.

Table 6.10 MOTHERS' PERCEPTION OF THE 3 1G  
POSTER

VISUAL PERCEPTION	BIG -EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
BREASTFEEDING MOTHER	142	94.7	136	90.7
HEALTHY PAIR		4.0		4.0
NOTHING		1.3		1.3
OTHER				4.0
TOTAL	150	100.0	150	100.0

Table 6.11 THE MESSAGES CONVEYED BY BIG POSTER AS  
REPORTED BY MOTHERS »

MESSAGES	BIG-EXPOSED		:	NON-BIG EXPOSED	
	N	%		N	%
TO BREASTFEED	122	81.4	:	129	86.0
TO HOLD BREASTS WHILE FEEDING	8	5.3	!	6	4.0
NOTHING	3	2.0	:	3	2.0
HAPPINESS IN BREASTFEEDING	8	5.3	:		0.7
OTHER	9	6.0	:	11	7.3
TOTAL	150	100.0	:	150	100.0

\*% column for BIG-Exposed mothers in Table 6.11  
has been rounded to 100%.

Table 6.12 MOTHERS ATTITUDES TOWARDS THE BIG POSTER

ATTITUDES	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
POSITIVE	147	98.0	149	99.3
NEGATIVE	3	2.0	1	0.7
TOTAL	150	100.0	150	100.0

Table 6.13 MOTHERS' VIEW TOWARDS THE BiG POSTER AS A TOOL FOR PROMPT i NG BREASTFEED ING

MOTHERS' VIEWS	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
APPROPRI ATE	146	93.7	147	98.0
INAPPROPRIATE	2	1.3	3	2.0
TOTAL	150	100.0	150	100.0

#### 6.4.2 MOTHERS' PERCEIVED IDEAL DURATION OF BREASTFEEDING

There was no statistically significant difference ( $P > .05$ ) between both groups of mothers about what they perceived to be the ideal duration to stop breastfeeding a baby. BIG-Exposed mothers felt that 27.2 months was ideal mean duration to stop breastfeeding compared to 26.4 mean months perceived ideal duration expressed by the NON-BIG Exposed mothers.

#### 6.5 MOTHERS' PRACTICES

##### 6.5.1 Supplementation

Twenty four (16.0%) of the youngest children of BIG-exposed mothers had not been given any supplements by the time of the survey compared to 29 (19.3%) children of the NON-BIG Exposed mothers. Table 6.14 gives the distribution of the time the weaning period started for both groups. The mean age of weaning for BIG-Exposed is 2.0 months compared to 1.8 mean months for NON-BIG Exposed. The one way analysis of variance test showed that there was a statistically significant difference ( $P < .05$ ) between the two groups of mothers in their practice of weaning. The NON-BIG exposed mothers weaned their infants earlier than the BIG-exposed mothers. When mothers' occupation is controlled for, 72 youngest children of the BIG-Exposed housewives

mean weaning months is 2.15. compared to 10<sup>^</sup> youngest children of the housewives in NON-BIG Exposed with mean months of 1.87. The mean weaning montns for 49 infants of the EIG-Exposed mothers engaged in formal employment is 1.86 compared to 22 infants of NON-BIG Exposed mothers engaged in formal employment of 1.45.

Table 6.14 THE DISTRIBUTION OF THE INDEX CHILD BY AGE OF INITIATION OF WEANING

AGE OF WEANING (IN MONTHS;	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
0 - 1	35	28.9	to <	45.3
2 - 3	43	35.5	40	31.7
4 - 5	30	24.8	19	15.1
>=6	13	10.8	<b>10</b>	7.9
TOTAL	121	100.0	126	<b>100.0</b>



### 6.5.2 Duration of breastfeeding

Table 6.15 shows the mean months duration of breastfeeding of the youngest child for both groups of mothers. There were 69 (46.0 %) youngest children in the BIG-exposed group who were still being breastfed, compared to 93 (62.0%) of the NON-BIG Exposed at the time of the survey. Therefore the mean months duration was calculated from 133 children from both groups who had stopped breastfeeding at the time of the survey. Figure 6.1 shows the proportion of mothers breastfeeding at each monthly interval using the life table analysis for both groups. The lifetable analysis took into account cases where breastfeeding was still continuing at the time of the data collection. Using this analysis, the median duration of breastfeeding the youngest child of BIG-Exposed mothers is 13.5 which is much shorter when compared to 17.0 months of breastfeeding the youngest child of NON-BIG Exposed mothers. At 40 months. NON-BIG Exposed mothers are still breastfeeding, compared to 36 months for BIG-Exposed. Among 93 BIG-Exposed housewives 44 had stopped breastfeeding with a mean of 13.8, compared to 50 housewives among 123 in the NON-BIG Exposed with a mean of 15.9.

PERCENTAGE OF MOTHERS BREASTFEEDING AT EACH MONTHLY INTERVAL

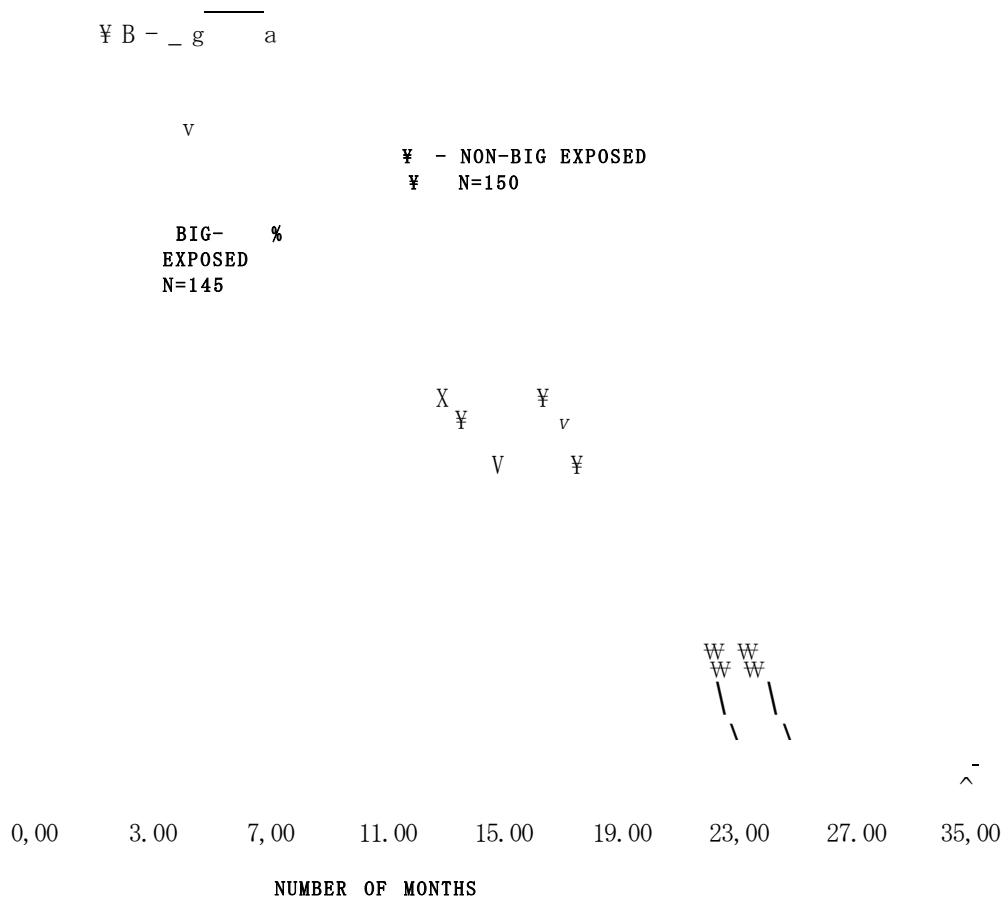


Table 6.15 MEAN DURATION OF BREASTFEEDING OF THE  
INDEX CHILD IN MONTHS

	MEAN	S. D.	N
BIG-EXPOSED	12.2	9.10	76
NON-BIG EXPOSED	15.5	6.79	57
TOTAL			133

#### 6.5.3 Bottiefeeding

Table 6.16 shows the frequency of using feeding Dottles by both groups of mothers, at any time during their child rearing experience. Table 6.17 gives both groups of mothers reasons for using feeding bottles, and Table 6.18 shows the distribution of mothers by source of advise on bottlefeeding. In most cases, the decision to bottlefeed was made by the mother herself. There was no difference between the study groups in terms of their use of feeding bottles. When both groups were asked about the reasons for bottlefeeding. the majority reported that they had to leave the baby with somebody else, and that they did not have enough milk.

Table 6.16 FREQUENCY OF BOTTLEFEEDING BY EXPOSURE STATUS

BOTTLE- FEEDING	BJG- EXPOSED		NON- BIG EXPOSED	
	N	%	N	%
YES	77	51.3	63	42.0
NO	73	48.7	87	58.0
TOTAL	150	100.0	150	100.0

Table 6.17 REASONS FOR BOTTLEFEEDING AS REPORTED  
BY MOTHERS

REASONS	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
INSUFFICIENT MILK	14	18.1	21	33.3
MOTHER OCCUPIED ELSEWHERE	38	49.4	18	28.6
EASIER THAN A CUP	9	11.7	11	17.5
FASHIONABLE	8	10.4	4	6.3
NO REASONS	<b>8</b>	<b>10. a</b>	9	14.3
TOTAL	77	100.0	63	100.0

Table 6.16 DISTRIBUTION OF MOTHERS BY SOURCE OF  
ADVICE ON BOTTLEFEEDING

SOURCE	: BIG EXPOSED		; NON-BIG EXPOSED	
	: N	%	: N	%
INDEPENDENT DECISION	: 57	74.0	: 48	76.2
HEALTH WORKERS	! 9	11.7	; 3	4.8
MOTHERS	: 8	10.4	; 7	11.1
FRIENDS	: 3	3.9	: 5	7.9
TOTAL	: 77	100.0	: 63	100.0

#### 6.5.4 BREASTFEEDING PROBLEMS

Table 6.19 gives the frequency of breast ailments as reported by the two groups of mothers. Table 6.20 shows a comparison of the type of breast problems experienced by both groups of mothers. In this table, the breast problems mostly reported by NON-BIG Exposed mothers were cracked nipples and engorged breasts, compared to BIG-Exposed mothers who reported that the most breast problem that they experienced were cracked nipples and painful nipples. Table 6.21 shows the treatment used by the two groups of mothers to solve these problems.

BY MOTHERS

EXPERIENCED	BIG EXPOSED		;	NON-BIG EXPOSED	
	N	%		N	%
YES	20	13.3	!	25	16.7
NO	130	86.7	:	125	83.3
TOTAL	150	100.0	:	150	100.0

Table 6.20 DISTRIBUTION OF MOTHERS BY TYPE OF BREASTFEEDING PROBLEMS EXPERIENCED

TYPE OF PROBLEM	BIG-EXPOSED		!	NON-BIG EXPOSED	
	N	%		N	%
CRACKED NIPPLES				11	44.0
PAINFUL NIPPLES				1	4.0
ENGORGED BREASTS				11	44.0
OTHER				<b>2</b>	8.0
TOTAL				25	100.0

TABLE 6.21 DISTRIBUTION OF MOTHERS BY TYPES OF  
TREATMENT USED TO TREAT THE BREAST AIL-  
MENTS

TREATMENT	BIG - EXPOSED			NON - BIG EXPOSED	
	I	N	%	N	%
MEDICATIONS	!	9	45.0	1	56.0
WARM WATER	1	4	20.0		8.0
VASELINE	!	3	15.0	3	12.0
OTHER	!	4	20.0	6	24.0
TOTAL	!	20	100.0	25	100.0



## 6.6 CHARACTERISTICS OF THE HEALTH WORKERS SAMPLE

## 6.6.1 Job Titles

Table 6.22 gives the distribution of jobs held by the BIG-Exposed and NON-BIG Exposed health workers.

Table 6.22 DISTRIBUTION OF HEALTH WORKERS BY JOB TITLES

JOB TITLES	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
Enrol led Nurses	3	12.5	4	16.7
Pub lic Health Nurses	11	45.8	10	41.6
Enrol led Midwives	8	33.3	8	33.3
Nutrition Field workers	2	8.4	1	4.2
Kenya Regi stered Nurse	0	0.0	1	4.2
TOTAL	24	100.0	24	100.0

6.7.1 HEALTH WORKERS KNOWLEDGE ABOUT THE ADVANTAGES OF BREASTFEEDING TO THE MOTHER AND THE BABY

All health workers were asked to name three advantages **of** breastfeeding to the baby, and three to the mother. A health worker who could not correctly name a single advantage (of breastfeeding) received a zero score. Health workers who correctly named one, two, or three advantages received 1, 2 or 3 scores, respectively. The mean test scores for the advantages of breastfeeding to the baby is 2.1 for the BIG-Exposed health workers compared to 1.83 mean score for the NON-BIG Exposed. Similarly, the mean test score for the advantages of breastfeeding to the mother was 2.21 for the BIG-Exposed health workers, compared to 1.92 mean score for the NON-BIG Exposed health workers.

6.7.2 Health Workers' knowledge about the International Code of Marketing Breastmilk Substitutes

All health workers were asked to name three provisions in the World Health International Code for marketing breastmilk substitutes (see appendix). A health worker who could not name a single provision of the code received a zero score. Health workers who correctly named one, two or three provisions received 1, 2 or 3 scores respec-

#### 6.6.2 Qualifying Year for the Health Workers

The earliest a health worker qualified for the present post was in 1965,\* and the latest in 1986. Mean qualifying year for the BIG-exposed group is 6.5 years, compared to 5 mean years for Non-EIG Exposed health workers. The mean time since qualifying for both groups is 6.3 mean years. The mean qualifying time was calculated from the year of qualifying to the time the survey was conducted.

#### 6.6.3 Parity

Forty-seven (98.9%) of the health workers had children, and only 1 (2.1%) did not.

#### 6.7 HEALTH WORKERS' KNOWLEDGE ABOUT BREASTFEEDING AND WEANING

Both groups of health workers were given a knowledge test about breastfeeding and weaning. The test consisted of 17 questions. Each question answered correctly accounted for 1 point. Therefore, the maximum number of points that a health worker could obtain was 17. The t-test showed that EIG-Exposed health workers had scored better with a mean score of 14.9 compared to a 12.9 mean score for BIG-Non Exposed (PC.001).

tively. The BIG-Exposed health workers scored much higher than the NGN-BIG Exposed health workers. The mean score for the BIG-Exposed group is 1.68 compared to the mean score of 0.29 for the NON-BIG Exposed.

### 6.7.3 SUCKLING REFLEX OF NEWBORN BABIES

All health workers were asked whether a newborn baby is able to suckle the breasts of the mother immediately after birth. BIG advises the health workers to put the newborn to the breasts immediately after birth or within one hour after birth, with the knowledge that the suckling reflex of most normal babies is strongest at this time. Of the BIG-Exposed health workers, 13 (45.2 %) responded that the suckling reflex of a newborn baby is strong compared to 7 (70.8%) from the NON-BIG Exposed. In the BIG-Exposed, 11 (54.2%) responded that the suckling reflex of newborn babies is weak compared to 17 (29.2%) of the NON-BIG Exposed.

### 6.7.4 PROLACTIN HORMONE .

All health workers were asked to give the specific hormone responsible for milk production. Only 16 (66.7%) of the BIG-Exposed health workers, were able to name the specific hormone, compared to 6 (25.0%) in the NON-BIG Exposed group. Those who

were unable to name the hormone in the BIG-Exposed amounted to 8 (33.3%), compared to 18 (75.0%) in the NON-EIG Exposed.

## 5.8 HEALTH WORKERS' ATTITUDES

### 6.6.1 Health Workers' Attitudes about breastfeeding and low birth weight babies

Twenty three (95.8%) of the BIG-Exposed health workers felt that low birth weight babies should be given breastmilk, and only 1 (4.2%) felt that they should not. All NON-BIG Exposed health workers felt that all low birth-weight babies should be given breastmilk.

### 6.8.2 BIG Poster

Table 6.23 shows the distribution of BIG-Exposed and NON-BIG Exposed health workers attitudes towards the BIG Poster. Table 6.24 gives the distribution of what health workers see in EIG poster and Table 6.25 shows the distribution of the message the health workers think the poster is conveying to them. Table 6.26 shows the health workers rating of the BIG Foster, as a tool to promote breastfeeding and weaning practices.

Table 6.23 HEALTH WORKERS ATTITUDES TOWARDS THE  
BIG POSTER

LIKE	BIG-EXPOSED		;	NON-BIG EXPOSED	
	N	%		n	%
POSITIVE	15	62.5	!	14	56.3
NEGATIVE	9	37.5	:	10	41.7
TOTAL	24	100.0	:	24	100.0

Table 6.24 HEALTH WORKERS VISUAL PERCEPTIONS OF  
THE BIG POSTER

PERCEPTIONS	BIG-EXPOSED		;	NON-BIG EXPOSED	
	N	%		N	%
BREASTFEEDING MOTHER	15	62.5	:	20	83.4
MOTHER AND <b>baby</b> :	<b>8</b>	33.3	!	2	8.3
OTHER	1	4.2	!	2	8.3
TOTAL	24	100.0	!	24	100.0

Table 6.25 THE MESSAGES CONVEYED BY BIG POSTER AS  
 REPORTED BY HEALTH WORKERS

MESSAGE	BIG-EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
TO BREASTFEED	18	75.0	15	62.5
TO HOLD BREASTS WHILE BREAST- FEEDING	1	4.2		8.3
BREAST MILK IS GOOD	5	<b>20.8</b>		29.2
TOTAL	24	100.0	24	<b>100.0</b>

Table 6.26 HEALTH WORKERS' VIEW ON THE USE OF BIG  
 POSTER AS A TOOL TO PROMOTE BREASTFEED-  
 ING

VIEWS	BIG EXPOSED		NON-BIG EXPOSED	
	N	%	N	%
APPROPRIATE	15	62.5	14	58.3
INAPPROPRIATE	9	37.5	10	<b>41.7</b>
TOTAL	24	100.0	<b>21</b>	<b>100.0</b>

## 6.9 HEALTH WORKERS PRACTICES

### 6.9.1 Health Workers' methods of feeding a baby before six months of age

The Health workers method of feeding their baby before six months was breast and bottle-feeding. Of the BIG-Exposed health workers, 6 (25.0%) had breastfed their infants only, compared to 10 (43.5%) of the NON-BIG Exposed. Those who combined both the breast and the bottle were 17 (70.8%) from the BIG-Exposed, compared to 13 (56.5%) from the NON-BIG Exposed. Only one health worker from the EIG-Exposed group had used the bottlefeeding method for her infant.

### 6.9.2 Health Workers' experiences of breastfeeding a baby before six months of age

When the health workers were asked to describe their personal experiences of breastfeeding a baby before six months of age, of the BIG-Exposed health workers, 4 (16.7%) responded that it was easy compared to 5 (21.7%) from the NON-EIG Exposed. Those who responded that it was a difficult experience included 20 (83.3%) from the EIG-Exposed compared to 18 (78.3%) from the NON-BIG Exposed.



## 6.10 CHARACTERISTICS OF BIG COUNSELLORS

### 6.10.1 Counsellors experiences in counselling

All six BIG Counsellors were experienced enrolled nurses or midwives. The mean years since qualifying was 22.2 years. They had all worked with other organizations prior to joining BIG, and had prior experiences in counselling mothers.

### 6.10.2 Ages of the counsellors .

The counsellors' ages ranged from 35-56 years, with a mean age of 44 years. They all had children of their own.

## 6.11 COUNSELLORS' KNOWLEDGE ABOUT BREASTFEEDING AND WEANING

The BIG counsellors were given the same test about breastfeeding and weaning as the mothers, health workers and BIG volunteers. Their mean score was 15.3 (S.D. 1.86). The lowest score obtained was 12 points and the highest was 17 points. Only two counsellors were able to obtain the maximum score. One counsellor obtained 16 points points. 2 obtained 15 points, while only one counsellor obtained 12 points.

6.11.1 Counsellors' knowledge about the advantages of Breastfeeding to the mother and to the baby

Two counsellors obtained three maximum points on the advantages of breastfeeding to the baby. Three counsellors obtained 2 points. and only 1 obtained one point. Three counsellors obtained 3 maximum points on the advantages of breastfeeding to the mother, one obtained two, another one obtained one, and only one counsellor did not obtain any points.

6.12 COUNSELLORS' ATTITUDES

6.12.1 BIG Foster

Five counsellors liked the EIG poster, and only one did not know how she felt about it. Five counsellors felt that it was a good tool to use in promote breastfeeding to all mothers, and only one felt that it was not appropriate.

6.12.2 Perceived ideal duration to stop breastfeeding by BIG Counsellors

The counsellors felt that it was best to breastfeed for as long as 2-4 years.

6.13 COUNSELLORS' PRACTICES

6.13.1 Counsellors' experience of breastfeeding a baby before six months of age

Three (50%) counsellors felt that it was difficult to breast feed a baby under six months as a working mother, and 3 (50%) felt that it was easy.

6.13.2 Method of feeding a baby before six months used by the counsellors

Four counsellors had a mixed type of feeding using both breast and bottle for their infants before six months, and only 2 had fully breastfed.

## 6.14 CHARACTERISTICS OF EIG VOLUNTEERS SAMPLE

### 6.14.1 Education of volunteers

Ten (83.0%) of the twelve BIG volunteers (executive members) interviewed had University degrees, and the remaining two (17.0%) had college diplomas. There were 11 women and all had children of their own. There was only one male.

### 6.14.2 Occupation of BIG Volunteers

Seven (58.3%) were in a health related occupation, 5 nurses, 1 pharmacist and 1 nutritionist. The other 4 worked as accountants, psychologists, media specialists and secretarial work. Only one was a housewife.

### 6.14.3 Volunteers' years of association with BIG

Half of the volunteers, had been with the organization for 3-4 years. There were 5 (33.3 %) who had been associated with the organization for 5-6 years. Only one volunteer had been with the organization for one year.

### 6.14.4 Time spent on BIG activities by the volunteers

Six (50%) of the twelve volunteers spent 1-5 hours per week on volunteer activities

tor the organization. There were 5 (4.2) volunteers who spent between 6-10 hours per week and only 1 spent ten hours per week.

#### 6.16 KNOWLEDGE ABOUT BREASTFEEDING AND WEANING BY THE BIG VOLUNTEERS

The BIG volunteers similarly were given the same test as the rest of the study sample. Table 6.27 shows the distribution of their test scores about breastfeeding and weaning. The mean score for BIG volunteers was 14.3 (S.D. 1.96). Their test scores ranged from 11 to 17 points.

Table 6.27 DISTRIBUTION OF BIG VOLUNTEERS BY TEST SCORES ON KNOWLEDGE ABOUT BREASTFEEDING AND WEANING

Score	N	%	Cum %
11	1	8.3	8.3
12	1	8.3	16.7
14	4	33.4	50.0
15	1	8.3	56.3
16	2	16.7	75.0
17	3	25.0	100.0
TOTAL	12	100.0	

6.15.1 Knowledge about the advantages of breastfeeding to the mother and to the baby;

BIG volunteers were asked to give three advantages of breastfeeding to the mother and three to the child. A volunteer who could not correctly name a single advantage of breastfeeding obtained a zero score. Volunteers who named one, two or three advantages obtained one, two or three scores respectively. Table 6.28 gives a distribution of volunteers' scores for advantages of breastfeeding to the baby, and Table 6.29 gives a similar distribution of volunteers' scores for advantages of breastfeeding to the mother.

Table 6.28 DISTRIBUTION OF BIG VOLUNTEERS BY TEST SCORES ON ADVANTAGES OF BREASTFEEDING TO THE BABY

Score	N	%
1	3	25.0
2	4	33.3
3	5	41.7
TOTAL	12	100.0

Table 6.29 DISTRIBUTION OF BIG VOLUNTEERS BY TEST SCORES ON ADVANTAGES OF BREASTFEEDING TO THE MOTHER

Score	N	%
1	3	25.0
2	6	50.0
3	3	25.0
TOTAL	12	100.0

## 6.16 BIG VOLUNTEERS' ATTITUDES

### 6.16.1 The BIG Poster

Eight BIG volunteers liked the poster while u did not. Seven of them felt that it would be a good tool to promote breastfeeding in a rural setting if the women in the poster did not have a breastfeed- ing brassier. They felt therefore, that it needed improvement. There were 5 volunteers who felt that the poster was not appropriate for rural mothers. They felt that the mother potrayed in the poster looks very sophisticated for a rural mother.

6.16.2 Perceived ideal duration to stop breast-feeding by EIG volunteers

The BIG volunteers felt that it was better to stop breastfeeding a baby after two years. They felt that 28 mean months was ideal to stop breastfeeding a baby.

6.17 VOLUNTEERS' EXPERIENCES OF BREASTFEEDING A BABY BEFORE SIX MONTHS OF AGE

Breastfeeding was universal among the eleven volunteers (.women). Of the eleven volunteers. 10 felt that the experience of breast feeding a baby as a working mother was difficult, and only one felt that it was easy although she was working part-time at the time.

6.17.1 Volunteers' methods of feeding their infants before six months of age

Ten BIG volunteers breast and bottlefed their children before they were six months of age. There were 9 volunteers who breast and **Dottlefed** their infants and only two breastfed.



C H A P T E R    T  
D I S C U S S I O N

7.1 THE PURPOSE OF EVALUATIONS

Evaluation is one of the most important and necessary components to any programme or project using human communities as subjects and public funds for implementation (Kielmann, 1987).

The purpose of evaluating BIG is to gather objective data on various aspects of their educational programme. These data can be used to aid in decision making, and to assess the extent to which the BIG educational programme has achieved its stated educational objectives.

The evaluation was undertaken on a sample population to determine whether BIG has made impact on the knowledge, attitudes and practices of its target population: mothers and health workers. In addition, an assessment of BIG counsellors and BIG volunteers was done. Ultimately, the success of any programme can only be judged by the impact it has made on its target population.

7.2 MOTHERS

The mothers knowledge about breastfeeding and weaning was determined by giving them a test consisting of seventeen questions. The results of the test showed that, the BIG-Exposed mothers ob-

tained a higher mean score than the NUN-BIG Exposed. The difference in these scores was found to be highly statistically significantly different ( $P=.000$ ). This difference in performance between the two groups can be attributed to the BIG educational programme, as both study and comparison mothers did not differ significantly in confounding variables such as education, age, parity, marital status and the fact that both groups came from same catchment area (Nairobi). Although statistical control was employed in removing the potential effect of the confounding variable of occupation, occupation might have influenced the better test scores among the BIG-Exposed mothers, considering that there were significantly more mothers in the skilled labor and professional groups than among the NON-BIG Exposed. Another factor that supports the influence of BIG educational programme on BIG-Exposed mothers better performance is that, in Nairobi, there are other sources of information about infant feeding. This includes the health institutions, mass media, Non Governmental Organizations, Community Educational Programmes etc. In this regard. all mothers should have performed well. The BIG-Exposed mothers better performance can be attributed to exposure to their educational programme since, other studies have also shown that

exposure to a breastfeeding educational programme can have a positive effect on its target group by increasing their knowledge about breastfeeding (Israel, et al, 1966).

In educating mothers, BIG counsellors emphasize only on the benefits of breastfeeding over artificial feeding to the mother and to the child. Therefore, when both groups of mothers were asked to name three advantages of breastfeeding to both the mother and the baby, the BIG-Exposed mothers scored significantly higher than the NON-BIG Exposed mothers ( $P=.000$ ). Although knowledge does not necessarily bring about behaviour change, it is important for a person to know what to change and the benefits of doing so. This emphasis on the importance of breastfeeding is done since it is assumed that knowing the benefits of breastfeeding may influence mothers to initiate breastfeeding and to breastfeed for a longer period of time. This is enhanced by the fact that no other milk available is superior to breastmilk. Other similar studies have demonstrated that as knowledge about the benefits of breastfeeding increases in mothers exposed to breastfeeding promotion programmes, so too does the proportion of mothers initiating breastfeeding (Israel, et al, 1986).

In addition to the teaching that is under-

taken by the counsellors at the clinics, visual aid materials plus hand outs to mothers are used to enhance their knowledge about breastfeeding and weaning. The BIG poster is the main visual aid used to create awareness to the target population. The poster is used as a tool to promote breastfeeding, encourage supplementation of the breast between four to six months, and to discourage bottle-feeding. Both groups of mothers viewed the BIG poster positively and reported that it was an appropriate tool to use in promoting proper infant feeding practices. Their visual perception of the poster was not significantly different and the majority responded that they were seeing a breastfeeding mother. The message that they thought the poster was conveying to them was to breastfeed. The BIG exposed and the Non-BIG Exposed mothers perceived the poster to be an appropriate tool for creating awareness. This is supported by the fact that the mothers saw what BIG intended them to see, and the message that was to be conveyed when they designed the poster. The poster portrays a very sophisticated woman, not typical of the study mothers. Both groups of mothers liked it contrary to the popular belief that people can only be reached through images which they themselves can identify with. Similar attitudes have been shown

in other studies that posters can be used successfully to reach mothers in educational programmes to promote and encourage breastfeeding (Restrepo, 1981). Infant food industries have in the past succeeded in advertising their products by using posters of overweight sophisticated women and overweight babies (Greiner, 1975). Although there is a misconception in equating overweight to health, this idea has worked for the industry. Therefore, EIG's idea of using a sophisticated breastfeeding woman is in line with the marketing strategies used by the industry, as their aim is to market breastmilk as an important product in infant feeding

BIG counsellors encourage mothers to breastfeed their children for two or more years. There was no statistical difference in what both groups of mothers perceived to be the ideal duration to stop breastfeeding. Both groups felt that more than two years was an ideal practice. This shows that both the BIG-Exposed and the Non-BIG Exposed mothers see prolonged breastfeeding as the normal practice, of feeding children.

All mothers from both groups initiated breastfeeding their index child at birth. This shows that both groups of mothers see breastfeeding as the only method of feeding a newborn baby. This similar pattern of initiation of breastfeeding

has been shown in another Nairobi study that reported breastfeeding was universal among 97% of mothers from low and middle income groups of different cultures (Winikoff, et al, 1983). This is an indication that breastfeeding practice continues to occupy a place of eminence in infant feeding in Nairobi. The mean duration of breastfeeding was shorter in the BIG-Exposed group, even when occupation was controlled for, and longer in the NON-BIG Exposed (12.2 mean months vs. 15.5 mean months. One possible explanation is that may be. counsellors could be emphasizing more about exclusive breastfeeding for 4-6 months, forgetting that even after that period, breastmilk is very important to the child because of its various benefits. This also could mean that, after the mother achieves that goal of 4-6 months, she probably relaxes and starts offering the infant other types of feed more than the breastmilk. BIG-Exposed housewives still breastfed for a shorter period of time compared to the housewives in the NON-BIG Exposed mothers. Therefore, this means that the counsellors need to emphasize on duration of breastfeeding, putting into consideration each case in its own merit. Although the relationship of employment and breastfeeding duration was not shown in this study, other studies have found that emplo-

yed women breastfed for a shorter period of time than women who are with their children all the time (WHO, 1931; Graitcer, et al, 1984). The mothers actual practice of breastfeeding is much shorter compared to their perceived ideal duration. This wide discrepancy between the actual practice of breastfeeding and the the expressed views on what duration ought to be has also been shown in other studies (Anyanwu, et al, 1935).

BIG educational programme addresses itself to the issue of weaning. The programme advocates 4-6 months as the ideal period for a mother to start giving supplementary foods to the infant. This is because breastmilk alone is no longer adequate to sustain an infants needs for growth after this period. The NON-BIG Exposed mothers had introduced supplementary foods to their index child earlier than the BIG-Exposed mothers. The NON-EIG Exposed mothers had also weaned their infants later than the BIG-Exposed mothers. Early as well as late pattern of weaning is dangerous to the infants. The BIG-Exposed mothers had benefitted from the exposure, to the BIG educational programme, although their mean weaning months was 2.0 months, much shorter than what the group advocates (A-6 months). This means that BIG counsellors has to persuade mothers more about

weaning at this time taking into consideration the mothers lifestyle. The NON-BIG Exposed group had weaned at 1.8 mean months. Both groups of mothers had used a feeding bottle at some time during their-  
childhood rearing practices.

The prevalence of bottlefeeding in Nairobi has been shown in another study that revealed that ninety-two percent in a sample of 980 women had used a feeding bottle and teat (Winikoff, et al, 1935). BIG counsellors discourages in their teaching the use of bottle and teats, and instead encourages mothers to use a cup and spoon. This is because dirty bottles and its contents, have been implicated in causing diarrhea in children. The cup and spoon are easier to clean and the amount of feeds are likely to be given for that particular moment and finished by the infant, or discarded. The majority of mothers had taken an independent decision to use the feeding bottles. It is encouraging to note that the health workers were reported to have advised only a few mothers to use feeding bottles. The rest of the mothers were advised by friends and their mothers. The BIG-Exposed mothers had given the following reasons for using feeding bottles in order of importance as: mother occupied elsewhere, (e.g. work or errands), insufficient milk, easier than feeding with a cup,



being fashionable, or no reason was given. In the Non-Big Exposed reasons for using feeding bottles were cited in order of importance as: insufficient milk, mother occupied elsewhere, no reason and fashionable respectively. Other studies have shown insufficient milk and leaving the baby as the most cited reasons for weaning and stopping breastfeeding (WHO, 1961; Latham, 1961).

BIG counsellors gives mothers counselling on how to prevent breast related problems that can interfere with breastfeeding. In the EIG-Exposed sample, 86.7 percent of the mothers reported that they had never experienced a breast ailment while breastfeeding compared to 83.3 percent in the NON-BIG Exposed. These findings are similar to another Nairobi study that reported that 85.0 percent of the mothers in the survey had no breast related problems while breastfeeding. Engorged breasts was the main breast problem reported by the NON-BIG Exposed mothers as shown in Table 6.19. It may be that the high incidence of reporting of engorged breasts is because of the mothers inability to describe the problem clearly. Engorged breasts may also have included cracked nipples, and painful nipples. BIG-Exposed mothers' reporting of breast problems can be more accurate, given that this is part of their education from the counsellors.

Those who reported other problems said that they had flat nipples and small breast's. The mothers treated these breast problems by going to the doctor, using warm water, applying vaseline, going to the witch doctor, or just waited until the problem cleared itself. Most of these problems can be prevented by educating mothers on breast management during feeding.

### 7.3 HEALTH WORKERS

The BIG-exposed health workers had higher mean knowledge scores in the test about breastfeeding and weaning than the Non-BIG exposed health workers. The higher scores in the BIG-exposed health workers can be attributed to exposure to the EIG seminar, as there was no difference in their job descriptions at the MCHC. The mean year of qualifying for the present job for BIG-exposed health workers was 7.5 mean years, compared to five mean years for the Non-BIG exposed. This should not make a difference in the scores because the earliest health worker to qualify for the present post in BIG-Exposed health workers did so in 1965, and the latest in 1985. For Non-BIG Exposed health workers, the earliest qualified in 1965 and the latest in 1986. The longer working experience in the BIG-exposed may account for the difference in the scores, but then the latest knowledge from school is with the Non-BIG exposed.

The lack of breastfeeding knowledge in the Non-BIG exposed health workers is in keeping with what other similar studies have shown (Veldhuis, et al, 1982; Burgess, 1980; Nyanzi, 1983).

The attitudes of both groups of health workers did not differ about giving breastmilk to low

birth weight babies (<2500 grams). Most (97.9%) agreed that breastmilk was best.

There was no difference in both groups attitudes towards the BIG poster. This indicates that even for health workers the poster was a good choice. Although the health workers are divided about the posters' appropriateness, as seen in Table 6.26. This could be the result of long held misconceptions that people can only be reached through images they themselves project. Hence they felt that mothers need to be reached with a poster that projects their own image.

BIG recommends four to six months as time to offer supplementary foods to infants. Health workers were found to breast and bottle feed their children before six months of age. This pattern of feeding has been shown in other studies (.Dimmond, et al, 1987; Nyanzi, 1983; Winikoff, et al, 1983).

The experience of both groups of health workers in breastfeeding their own babies before six months was similar. Four out of twenty four in BIG-exposed group found it to be difficult, and the rest found it to be easy and manageable. In the Non-BiG exposed group, five found it easy to breastfeed a baby less than six months, compared to eighteen who found it difficult. This is an indication of conflicting roles of employment and child

care. Other studies have recommended that the first step in creating an atmosphere conducive to breastfeeding among clients is to educate health staff about breastfeeding (Winikoff, et al. 1980).

#### 7.4 COUNSELLORS

The counsellors who are responsible for teaching mothers and health workers had the highest score with respect to breastfeeding and weaning practices in the total study sample. as expected. When tested about the advantages of breastfeeding to the baby, their scores were not very good as shown in 6.11.1. With respect to advantages of breastfeeding to the mother, half of the counsellors obtained maximum points. It would be expected that the counsellors would be able to name all the benefits of breastfeeding as that is what they are required to teach mothers everyday. The mothers that they teach could have obtained better scores on the advantages of breastfeeding to both the mother and the child if the counsellors had taught all of them, as they should. This is illustrated in Table 6.8 and Table 6.9. Of the six counsellors, five of them liked the BIG poster and felt that it was an appropriate tool to promote breastfeeding. The one counsellor who did not like it felt, like the health workers, that it is too

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sophisticated to be used for rural women.

BiG promotes two years and above as the ideal duration to breastfeed. The counsellors also felt that two to four years is long enough to breastfeed.

Three counsellors felt that it was difficult to breastfeed a baby under six months. Although they are counsellors of breastfeeding, they are working mothers and experience similar problems like the other mothers. Four counsellors breast and bottle fed their children before six months.

#### 7.5 VOLUNTEERS

The twelve BIG volunteers scored well in the knowledge tests about breastfeeding and weaning. With respect to advantages of breastfeeding, three could name one advantage of breastfeeding to the baby, four could name two, and five could name three. As these volunteers are the ones who represent BIG's interests in the media, hold educational seminars, and run the organization. They should be able to name all the advantages of breastfeeding to both the mother and the child. Their test scores are shown in Table 6.27 and 6.28 and Table 6.29.

All volunteers breastfed their children before six months as taught by BIG. The majority

felt that the experience of breastfeeding babies before six months was difficult, as expected. as they are also working mothers.

#### SUMMARY

In this study, exposure to a breastfeeding educational programme has come out as a positive factor in gaining of proper knowledge, and attitudes. The practice of weaning, came out as a positive factor for mothers who were exposed to breastfeeding counselling, although their mean weaning months was still short of what BIG as a promotion group advocates, but not breastfeeding duration. It can therefore, be said that BIG has made positive impact on its target population. as far as knowledge and practice of weaning is concerned. Their visual aid poster was positively viewed by the total study sample, and the message it is conveying. hence its being endorsed as an appropriate tool to use in promoting breastfeeding and weaning.

## CHAPTER Q

### CONCLUSIONS

The results of this evaluation provide evidence that an educational programme to promote breastfeeding and weaning practices can successfully be carried out. The success of BIG's educational programme is evident from the higher knowledge scores on breastfeeding and weaning practices obtained by the BIG-Exposed study sample compared to the Non-BIG exposed sample.

The evaluation has shown that there is a positive association between exposure to an educational programme and knowledge gained. BIG, therefore, has made a positive impact on the knowledge about the benefits of breastfeeding of mothers and health workers who have been exposed to their intervention programme.

Breastfeeding is universal to both groups of mothers in the study sample. This shows that breastfeeding is recognized as an important method of feeding a child, especially a newborn child.

The practice of weaning the mothers' youngest child among BIG-exposed and Non-BIG exposed was significantly different, with Non-BIG exposed mothers weaning earlier than four to six months. BIG counsellors need to try and give sound practical advice on weaning to mothers taking into



account the circumstances of their lifestyle (e.g. employment). For the working mothers to defer weaning to the recommended period of four to six months BIG, as an advocate for breastfeeding may have to lobby for prolonged maternity leave and nursing breaks from employers.

Although only fifteen percent of the total sample of mothers reported a breast problem, that could prevent them from initiating or continuing breastfeeding. This suggests that mothers need to be provided with information on how to prevent and treat these problems, as they are preventable through proper breastfeeding education.

The positive attitude of the study sample towards the EIG poster shows that BIG has made a good choice of poster.

Both BIG-exposed and Non-BIG exposed health workers support breastfeeding. They all had problems with weaning, as evidenced by their widespread use of both bottle and breast in this period.

The counsellors and BIG volunteers had problems with weaning their infants as working mothers. This area needs to be investigated. More research is needed in areas that present problems to the practices of breastfeeding and weaning. These areas include the real reasons why women continue to wean earlier than the recommended

four to six months period, and what can be done to improve that situation. Participation in the programme did not lengthen the duration of breastfeeding among the BIG-Exposed mothers. Although, the duration of breastfeeding was longer than a year, which is adequate, especially in an urban population that has to meet its other demands of making a livelihood by working. The short duration might have been influenced by the fact that there were more mothers and their husbands engaged in formal employment in this group compared to NON-BIG Exposed. This area needs to be investigated in order to determine the reasons why the duration of breastfeeding is longer in those mothers not exposed to the BIG Educational programme.

## **RECOMMENDATIONS**

Based on the findings and observations, of this study the following recommendations are made.

To ensure that safe and adequate nutrition for infants is ensured. BIG should continue to protect and promote breastfeeding on the basis of providing adequate, accurate, and practical information about breastfeeding and weaning practices.

1. Health workers need further training in breastfeeding and its management to be able to promote and encourage breastfeeding to mothers at MCHC and hospitals.

2. In order for information about infant feeding to reach the members of the public. mass media. mainly radio, newspapers, magazines and television should be used.

3. Due to the small number of BIG counsellors available, BIG should concentrate on training health workers, midwives, traditional birth attendants etc. so that they can assist them more in counselling in their daily contacts with mothers.

4. BIG should develop more hand outs and promotional posters about breastfeeding and weaning to distribute to the members of the public, MCHC and hospitals throughout the country.

5. In order to reach the younger members of the society. (.future fathers and mothers; , maternal and child health education with emphasis on the mothers diet, breastfeeding, and weaning should be introduced in the curriculum of primary and high schools.

6. In order for working mothers to continue breastfeeding and to defer weaning of their infants, to the recommended period or four to six months, maternity leave should be extended to three months (90 working days).

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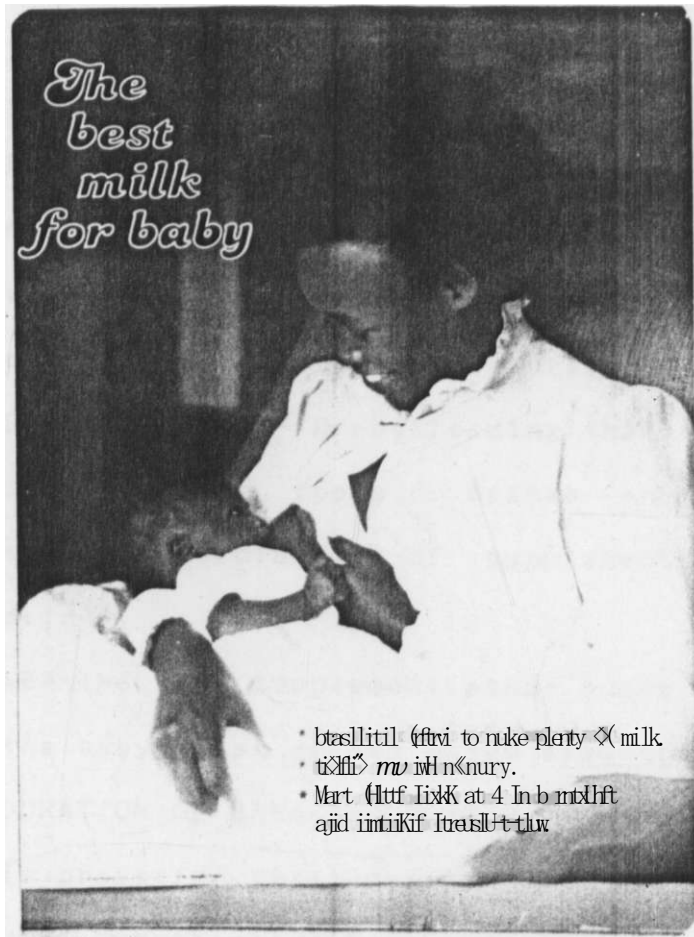
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A P P E N D I X 1



PHOTOGRAPH OF THE BIG POSTER USED TO PROMOTE  
BREASTFEEDING AND WEANING PRACTICES TO MOTHERS  
AND HEALTH WORKERS.

## APPENDIX 2

### DEFINITIONS

BIG - Breastfeeding Information Group

BIG-EXPOSED - The mothers and health workers were exposed to breastfeeding and weaning counselling by BIG counsellors through lectures or semi-nars.

NON-BIG EXPOSED - The mothers and health workers who had never been given breastfeeding and weaning counselling by BIG counsellors.

BREASTFEEDING - Breastfeeding that is inclusive of supplementary foods or drinks and breastfeeding that is exclusive of supplementary foods and drinks.

WEANING - To supplement other foods and drinks to the baby's diet of exclusive breastfeeding.

DURATION OF BREASTFEEDING - Total length the child is breastfed until cessation.

MCHC - Maternal Child Health Clinics.

KAP - Knowledge Attitudes and Practices.

SUPPLEMENTATION - Addition to the baby's diet before the age of 4-6 months of any food or drink in addition to or in partial place of breastfeeding.

EXCLUSIVE BREASTFEEDING - Giving breastmilk as the sole source of food and drink for an infant during the first 4-6 months of life.

**APPENDIX 3****PROVISIONS OF THE INTERNATIONAL CODE FOR  
MARKETING BREASTMILK SUBSTITUTES:**

1. No advertising of these products to the public.
2. No free samples to mothers.
3. No promotion of products in health care facilities.
4. No company mothercraft nurses to advise mothers.
5. No gifts or personal samples to health workers.
6. No words or pictures idealizing artificial feeding including pictures of infants, on the labels of the products.
7. Information to health workers should be scientific and factual.
6. All information on artificial infant feeding, including the labels, should explain the benefits of breastfeeding, the costs and hazards associated with artificial feeding.
9. Unsuitable products, such as sweetened condensed milk should not be promoted for babies.
10. All products should be of a high quality and take account of the climatic and storage conditions of the country where they are used they are used.

APPENDIX A

KNOWLEDGE. ATTITUDES AND PRACTICE CKAP >

INTERVIEW SCHEDULE FOR MOTHERS

Form Number

Date of Survey

Health Centre

Mothers I.D. Number

Age

Married . . . . . Yes. . . . . No

Education of Mother:

1. never been to school
2. less standard 7
3. completed standard 7
4. less form 4
5. completed form 4
6. less than form 6
7. completed form 6
8. College drop out
3. College diploma
10. University drop-out
11. university degree

Occupation of mother

Occupation of husband

1. Have you ever been given information about breastfeeding? 1: Yes 2: No  
9: Do not remember 7: No Response
- b. If yes, who gave you the information about

breastfeeding?

1: Breastfeeding Information Group

2: Other (specify;

c. Which year were you given the information  
for the first time?

d. Which birth was it

Have you ever heard of the Breastfeeding  
Information Group of Kenya? 1: Yes 2: No

9: Do not remember 7: No response

a. If yes, how many times have you sat in a  
breastfeeding session given by BIG?

1:

3: Not applicable

9: Do not remember

How many live births have you had altogether

How many living children do you have now?

Information on year or birth of all living  
children duration of breastfeeding, weaning  
starting with the youngest child (all childr  
of the mothe.r)

Child . . . . . month . . . . . year

Breastfed 1: Yes 2. No

Duration in months on breastmilk alone

Total duration of breastfeeding (months;....

Have you ever bottlefed any of your children?

Is yes 2: No 3: Not applicable

- b. It yes, why did you choose to bottlefed your babies?
- c. Who told you about bottlefeeding?
  - 1. healthworker 2. mother/mother in law
  - 3. friend 4. other (specifify)
- 7a. Have you ever experience problems while breastfeeding? 1: yes 2: no  
7: response refused 9: do not remember
- b. What was the problem?
- c. How did you solve the problem?

THE FOLLOWING TEST TO BE ADMINISTERED TO THE  
TOTAL STUDY SAMPLE:

- 1. What is the best food for babies less than 4 months of age?
  - 1. Human milk 2. Human milk plus cows milk
  - 3. Fruits and porridge 4. Otner (specify)...
  - 9. DNK
- 2. What should the baby be given to eat between 6-12 months of age?
  - 1. Ereastmilk alone 2. Cows milk alone
  - 3. Breastmilk plus other foods
  - 4. Other (specify).... 9. DNK
- 3. Does the size of the breast influence the amount of the milk a mother produces?



1. True 2. Faise 3. Sometimes 9. DNK

The more the baby sucks the breasts, the more the milk is produced:

1. Disagree 2. Agree 3. Not sure 9. DNK

How often should a breastfed baby be offered the breast?

1. Once in the morning and once in the evening  
 2. Whenever the baby is hungry or wants to  
 3. After every four hours  
 4. Other (specify). . . . . 9. DNK

At what age should the mother start introducing foods othe than breastmilk to the baby?

1. 0-3 months 2. 4-6 months 3. 7-12 months  
 4. Other (specify).... 9. DNK

How soon should a mother breastfeed her baby after a normal delivery?

1. 2 hours after 2. 1-3 days after birth  
 3. Immediately or within the first hour after birth  
 4. Other (specify). . . . . 9. DNK

Whenever a breastfeeding mother has problems of the engorgement of the breasts, she should

1. Stop breastfeeding  
 2. Continue breastfeeding the baby  
 3. Other (specify). . . . . 9. DNK

When a breastfeeding mother is worried about the amount of milk she produces, her milk production may easily diminish?

1. Disagree 2. Agree 3. Undecided 9. DNK

Breastfeeding has a contraceptive effect that helps to increase the birth intervals between children:

1. Disagree 2. Not sure 3. Agree 5. DNK

Which method of feeding a baby is more likely to cause infections in babies?

1. Breastfed babies 2. Bottled babies

3. No difference 9, DNK

Name three advantages breastfeeding offers to the baby:

Name three advantages breastfeeding offers to the mother:

What is the best/ideal duration for stopping breastfeeding a baby?

EVALUATION OF BIG POSTER cBY THE TOTAL STUDY

SAMPLE):

- a. What do you see in this poster?
- b. What do you think the poster is telling you?
- c. Do you like the poster?
- d. explain
- e. Do you think this poster is a good tool

for promoting breastfeeding?

1. Good
2. Not appropriate
3. No opinion
9. DNK.

THE FOLLOWING QUESTIONS TO BE GIVEN TO  
HEALTH WORKERS ONLY

1. Which specific hormone is responsible for maintaining and initiating milk secretion?
2. Should low birth weight babies be given breastmilk?
3. During the first few hours after birth, the suckling reflex of most babies is rather weak?
4. List three provisions of the World Health Organization International Code of marketing breastmilk substitutes

APPENDIX 5

KNOWLEDGE ATTITUDE AND PRACTICES(KAP)

INTERVIEW SCHEDULE FOR HEALTH WORKERS

Form Number.....

Date of Survey

ID Number

Health Centre

Educat ion

- 1. Less than standard 7
- 2. Completed standard 7
- 3. Less than form a
- 4. Completed form four
- 5. Less than form 6
- 6. Completed form 6
- 7. College drop out
- 8. College diploma
- 9. University drop out
- 10. University degree (specify)

Qualifying year

Designation

- 1. Have you been to any seminars in which the theory and practice of breastfeeding were discussed?

1. yes 2. no 9.DMK 7.response refused

- 2. If yes, list them  
seminar attended

year. . . . organizer of seminar

Have you ever attended a training seminar on  
breastfeeding promotion given by BIG?

1. yes 2. no 3. *DNK* 7. no response

7. no response

If yes, when was the last seminar that you  
attended and how long was the seminar?

APPENDIX 6

KNOWLEDGE ATTITUDE AND PRACTICE (KAP)

INTERVIEW FOR VOLUNTEERS AND COUNSELLORS

MAN AND COUNSELLORS

Date of survey\_

ID Number

Place of work

Education

1. Less than standard 7
2. Completed standard 7
3. Less than form 4
4. Completed form 4
5. Less than form 6
6. Completed form 6
7. College drop out
8. College diploma
9. University drop out
10. University degree

Qualifying year

Designation

1. How long have you been associated with BIG?
2. How much time do you spend on BIG activities?

COUNSELLORS ONLY

1. What is your last jdb title before coming to BIG?

2. When did you qualify for that title?
3. What was your job description before you  
joined BIG?
4. How old are you now?.

low lo introduce other food\*

Jo not nop brea»tied,ng Breastfeed^ a Mill good lor your Md even when h« i\* two yeas oid. or older Don't be in a hurry o take your baby oH the bream.

our toiu\* months lircjat milk alone a no longer enough Start wig other lood\* in addition lo (not mMead of) bteatt milk



\*>» tafeti way at trading a with cup or pUl« and «poon or wth Han hand!

"e\*ch your child to eat a variety of food\*, mashed to mike them oil rnetgy lood\*. bot^ bulldog lood», and protective kxid»

•u lo «H|h months Your Child should oat something Irom each l the lood group\* every day U\*eaIyour (kills to laach him local. lete loods happily; you know your chid bra).

lght lo twelve moot ha 7>ia child can be»n toleedhwmeHwWh i\* hand\* or a \*mall tpoon, and to drink Irom a cup You help him t needed.



)m year old; Ha thould ha able to eat everything thai the •armit in the family vat The tood can be ma\*hed or cut in small

**One lo two year% old:** The cMd need\* elmoal aa much bod\* Miking and protective food a\* hit mother doc\* And he need\* •bout halt a\* much energy lood Be Mire YOUR cMd get\* the amount he need\* of vegetable\*, bean\*. mA. or meat a\* lw ahatra the tamly lood

Buttmil children have tmal stomachs Thry cannot cat al they need in one nr two meals Even after they Mop breaIfaerfng they need to eat about fee umes a day in order lo grow wed

**Not all Of the child\* lood need\* lo be hot Leftover\*. bread, rrsik, • boded egg or (run are al good to eel between meal\***

## PLEASE HELP YOUR WIFE TO BREASTFEED

Do you know that your wife need\* more lo eat during pregnancy and during breastieetfng (lor M leaM two year\*)?

Be cure you bring home protein lood\* e.g. baana, cowpeaa, groundnut\*, meat, fiah, eggs, rrdk Be \*ure your \*M« eat\* plenty of these.

Alto \*he need\* tome extra protect\*\* lood\* (fieth fruit\* and vegrable\*) and met® lood\*. Encourage her lo have bread, bananas, cattava, potatora. or groundnut\* with her morning tea.

Do you know the also mutt have plenty lo drinkf Make tute the hat \*omelhng lo dnnk each lime the baby tucklet: tea, up, water, iquath, or any other dnnk.

Enough lood lor the mother meant enough breatt milk lor the baby. And buyeig tome eitra food lor the mother a cheaper than buying tinned mBk lor baby!

Do you know that good advice can solve breastfeeding problems? For example, the milk can be increased many times if you only know what to do.

U your wife's milk is going away, encourage her to pump the baby to the breast often as the baby demands. More tucking makes more milk.

For the safety of your baby, don't allow the use of feeding bottles unless the mother or doctor has prescribed them for special reasons.

Do you know that when your wife is relaxed and happy, milk flows well? Keep your wife as happy as you can. Avoid quarrels. Listen to her talks about her troubles and try to help solve any problems.

Be sure you are at home to give help with the children.

**Do you know that your wife needs rest?** An exhausted woman has trouble producing enough milk. See what you can do to lessen your wife's burdens so that she may sometimes rest.

**Do you know that your wife needs your approval for breastfeeding?** If she thinks that you don't care, she may give up. Tell her, and tell your relatives and friends, that you are proud your baby is being breast fed. Remind them why breast milk is the best baby milk:

- It is free from germs and it protects baby against illnesses. Baby will be healthiest on breast milk. (Not so much diarrhoea or colds).
- It has the correct temperature and is always ready.
- It is easily digested by the baby. (Not so many stomach problems and allergies)
- It is inexpensive. (No extra expenses for bottles, tinned milk, fuel, etc.)
- Baby is happier close to mother, nights are quieter, and parents sleep better.

**Do you know that gradual weaning is important to your child's health?**

Encourage your wife to continue breastfeeding until the baby is two years old. (If she goes out to a job, she can still breastfeed when she is at home.)

Other foods should be added to the baby's diet starting when he is about four months old.

Agree with your wife on a family planning method so that another pregnancy will not come sooner than you want. Baby should be eating many other foods and drinking from a cup before the next pregnancy is begun.

**WITH YOUR HELP AND ENCOURAGEMENT, YOUR WIFE CAN BREASTFEED HAPPILY**

# How to Breastfeed Your Baby



Breastfeeding Information Group  
P.O. Box 59135 Nairobi Ken. j  
Telephone 749899



## Why breastfeed?

Breast milk is the best food for your baby. It does not need any other food (or the first four months of his life). Breast milk is a natural food, always ready, and always warm enough. It is easy to digest.

A baby digests breast milk easily. The mother's milk is sweeter than the milk from a bottle.

Babies who are only breastfed do not get constipated. Breastfed babies get more protection against diarrhoea, cholera, flu, and other problems. For two to three days after you give birth, a special milk (colostrum) comes from your breasts. This colostrum gives your baby special protection.

Sucking at the breast helps your baby's teeth and jaw develop.

Breastfeeding saves you money because you do not need to buy costly artificial milk or cow's milk.

Breastfeeding develops love and loving feelings between baby and mother.



Prepare your nipples by pulling them out gently. After your bath, rub your nipples with a towel to make them dry.

When your baby is born, begin breastfeeding immediately, within one hour. Do not wait to see if he is hungry.

Whenever your baby is hungry, many times even on the very first day.

Wash each day with clean water. All your breasts need to be washed. There is no need to wash your breasts before every feed. When you do wash, do not use soap on your nipples.

## HOW TO HAVE PLENTY OF MILK

Breastfeed often

Start breastfeeding as soon as possible after birth. Most babies can suck within an hour after being born. The baby needs your colostrum in order to be healthy.

Breastfeed the baby whenever he is hungry or thirsty. This may be ten or more times a day. The more the baby sucks, the more milk supply you will produce.



Do not give water, glucose water, or other milk. Do not give any bottle feed. The baby does not need them. He needs to breastfeed every time he is hungry or thirsty. There is enough water for the baby in your breast milk.

Give both breasts at each feed. Let the baby suck as long as he wants.

Natural feeding helps to develop a good milk supply. Keep the baby close to you at night, and continue breastfeeding at night especially if you will be returning to a job. If you wish, you can safely breastfeed the baby in your bed. Your milk is best for the baby, day and night.



If you think that you don't have enough milk, give extra breast feeds to increase your milk production. For the first four months, the baby does not need other food or drinks, he only needs your milk. Remember that the more the baby sucks, the more milk he will produce. Remember that the more the baby sucks, the more milk he will produce. Remember that the more the baby sucks, the more milk he will produce.

Take care of yourself

Be sure you drink plenty of liquids every day, such as water, tea, sour milk, etc.

Eat nourishing foods. All help you to make milk.  
Energy foods: rice, ugali, potatoes, bread, maize, cassava, etc.  
Body-building foods: beans, cowpeas, groundnuts, milk, eggs, fish, meat, etc.  
Protective foods: green vegetables, carrots, tomatoes, and all kinds of fruit.

You need to eat enough food and drink enough in order to have plenty of milk. Eat something nourishing three times a day, including some body-building foods.



You save money by breastfeeding your baby. Use some of the savings to improve your own diet. Buy yourself body-building food like beans, cowpeas, and groundnuts. Rest whenever you can. Sometimes breastfeed lying down. Use family planning to space your children.

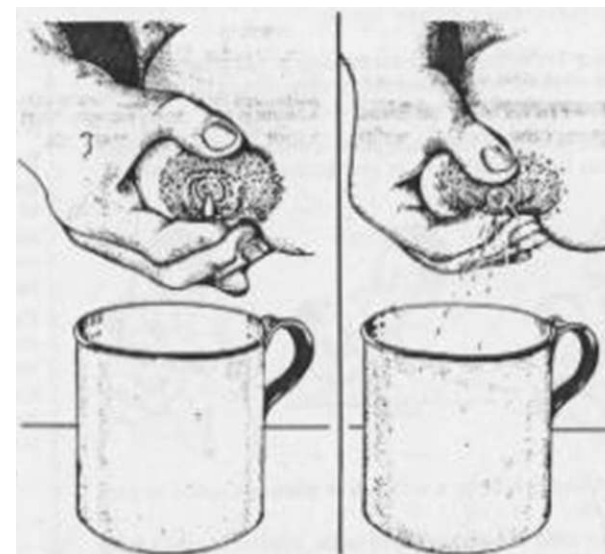


Do not worry

Do not worry about days when the baby cries more than usual. Comfort him by letting him suck.

Do not worry about small or soft breasts. After the first few days or weeks, your breasts will probably not leak. They will no longer be hard or sore, but you still have plenty of milk. It does go away, just like that. It cannot go away if you continue to breastfeed the baby on demand. It will flow when your baby sucks.

## How to hand express



Take the breast in your hand. Rub the thumb above the edge of the nipple area (areola) and the first finger under the areola. Press inward toward the chest wall. Squeeze the fingers and thumb together.

Release and repeat. Do it gently. At first, little will come, then more.

Do not spread your fingers out toward the nipple. Move your hand around to squeeze every part of the areola. This expressed milk may be carefully covered and given to the baby by cup any time during the next six hours.

## Hardness of breasts

Frequent breastfeeding in the early days will prevent or reduce the hardness of your breasts (engorgement). But if engorgement is noticed, breastfeed more often.

You may have to hand express some milk before a feed. This softens the breast so that the baby can take the areola into his mouth.

Some mothers find that a warm, wet cloth on the breasts is comfortable.

## If baby refuses the breast

Do not give bottles. Keep baby very close day and night. Sleep with him and offer the breast.

Check to be sure he does not have an ear or throat infection.

You can teach baby to breastfeed well if you never use bottles. Usually it is the bottle which causes breast refusal.

## If your nipples get sore

Breastfeed more often, at least every two hours. Don't let your breasts become full.

Start breastfeeding on the side which is less sore. Sucking is strongest at the beginning of a feed.

Relax before starting to feed. The milk flows more easily then. Start the flow by hand expressing some milk before the feed.



Hold baby very close to you during the feed. Be sure he is sucking on the areola, not just on the nipple. His chin should be touching your breast.

Do not shake the baby during a feed.

End the feed when the baby has sucked ten minutes on each breast. (When your nipples have healed, let the baby suck as long as he wants.)

Take the baby off the breast by pressing down on his chin. Never pull him off.

After the feed, press out a few drops of milk. Leave them to dry on the nipple before covering your breast.

Expose your nipples to air whenever possible. Also give them five to ten minutes of sun every day if you can.

## If you have pain in your breast

Continue to breastfeed very often, in order to keep that breast as empty as possible. Hand express if the baby does not want to suck enough.

Stay at home, lie down, and rest.

Before feeds, put a warm, wet cloth on the sore place, or soak the breast in a bowl of warm water.

If you get fever, or if the soreness goes on, go to a doctor or clinic. You should continue to breastfeed frequently, to rest, and to apply warm cloths while you take the medicine they will give you.

Remember that sore nipples or a sore breast can get better in a few days. You do not need to give up breastfeeding if you have these problems.

If you return to a job

During metemity leave, enjoy exclusive breastfeeding, whenever the baby is hungry or thirsty. This increases your milk supply, and breast milk is all he needs to eat or drink at this time.

Give the baby a good breastfeed before you go to work, or even two feeds if you can manage. If necessary, wake up the baby for these feeds. He can sleep when you are away.

If you can come home for lunch, give a breastfeed then. If you must remain at work, hand express as much milk as you can from your breasts. This prevents leaking and keeps you comfortable.

While you are not at home, the baby will need some milk. This milk should be given from a cup, not from a bottle. Too often, a baby becomes accustomed to a bottle and refuses the breast. Cup feeding is also cleaner and safer.



You can leave your breast milk for baby. Express it into a clean cup, cover it well and leave it ready. It does not need to be warmed before feeding.

If you choose to leave cow's milk, mix three measures of milk with one of water. Add a teaspoon of sugar and boil. Cool it in a covered pot. Later it can be given to baby from a cup. (When baby reaches six months, give him plain cow's milk, without any added water or sugar.)

Breastfeed again as soon as you return home from work. It is important for your maid or helper to learn how to keep the baby happy without constantly feeding him. She should follow your advice so that the baby will breastfeed eagerly when you arrive.

Breastfeed as much as the baby wants during the evening and night. Frequent sucking at these times will maintain your milk supply. On weekends and holidays, give the baby only breastfeeds. Your milk will increase with the extra sucking. And you will both enjoy the closeness of these days together.

A baby who gets plenty of his mother's milk will be healthier than one who has been weaned off the breast and only gets other milk. If you go to a job, the baby may receive some cup feeds. But you can still breastfeed whenever you are with him.