

SECOND CARNEGIE INQUIRY INTO POVERTY  
AND DEVELOPMENT IN SOUTHERN AFRICA

A programme to promote breast  
feeding in a socio-economically  
disadvantaged area of Cape Town

by

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A PROGRAMME TO PROMOTE BREAST FEEDING IN A SOCIO-ECONOMICALLY  
DISADVANTAGED AREA OF CAPE TOWN, REPUBLIC OF SOUTH AFRICA

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## INTRODUCTION

Cape Town, the legislative capital of South Africa, has a population of approximately one million people.

In 1979 the Heideveld Community Health Project was initiated in a suburb 16 Km from the centre of the city. The goal of this project was to demonstrate that the health of people living in a defined geographical area could be significantly improved by the operation of a model primary health care project supported by community participation.

### Characteristics of population living in the area

Heideveld is zoned for so-called Coloured occupation only. (Coloured is the government designation for people not classified as White or Black, i.e. of mixed ancestry). Approximately 48 000 people live in the area. Data from the latest census (1980) suggest that the population is characteristically a young one.<sup>1</sup>

Certain health statistics for the Coloured people of Cape Town are as follows:<sup>1</sup>

Birth rate	24/1 000
Death rate	6/1 000
Infant Mortality rate	20/1 000

The mean head of household income for people living in Heideveld<sup>2</sup> = \$2 250/annum. The household subsistence level<sup>3</sup> for Coloureds in Cape Town = \$2 202/annum.

### Objectives of the project

1. To provide a truly comprehensive health care service
  - a) by determining the health needs of the area
  - b) by monitoring the health status and evaluating the health service activities

- c) by bringing together all the groups concerned with health care delivery
2. To encourage community participation in the health of the area.
  3. To provide training opportunities for health workers.
  4. To provide a controlled environment where existing and new forms of health care could be tried and assessed.

Accordingly the following sub-committees were set up:

- Community participation
- Child health
- Geriatrics
- Health data
- Obstetrics, neonates and family planning

The Child Health Sub-committee

The initial task of the Child Health Sub-committee was to establish the nutritional status of children living in the area.

All school entrants were measured. As education is compulsory at the age of 6 years, the survey population included a high proportion of children of that age group living in Heideveld. Twenty-two percent of all school entrants were found to be below the National Centre of Health Statistics 5th percentile weight for age. As these findings indicate some degree of suboptimal growth during the preschool years, we decided to direct our efforts towards improving the nutritional status of children in this age group.

The programme instituted included the identification of preschool children whose growth performance was found to be faltering. They were investigated medically, socially, nutritionally and appropriate action taken.

Despite the established nutritional and other advantages of breast feeding it is evident that there is a world wide decline in its practice. An important aspect of this project was to determine infant feeding practice and factors influencing the choice of method. It is on this issue that this paper focusses.

#### PHASE I - PATTERNS OF INFANT FEEDING

##### Method of investigation

169 mothers with infants under the age of 6 weeks who attended the Local Authority Child Health Clinic for a variety of reasons were interviewed, the following data obtained:

- ages of infant and mother
- place of birth (i.e. home, hospital or midwife obstetrics unit)
- number of previous pregnancies and live children
- last birth interval
- method used for feeding the infant, i.e. breast, bottle or both
- reasons for introducing bottle or discontinuing breast
- age of the infant when contact was first made with Local Authority (either at the clinic or at home by a health visitor)

On the basis of this interview, infants were classified as either: breast fed, i.e. exclusively except for water given via a bottle; bottle fed, i.e. receiving no breast milk at all; or mixed fed, i.e. part breast and part bottle.

Of the 89 mothers who fulfilled the criteria for breast feeding, 80 were interviewed 6 weeks later, i.e. when their children were between 7 and 12 weeks of age. In 70 instances this interview was carried out in the clinic by the same medical officer who had completed the first questionnaire. In the case of 10 patients who defaulted, a health visitor interviewed the mother at home. At the second interview details were obtained of the method used for feeding the infant at this stage, and if it was not breast fed (using the above criteria), then an attempt

was made to establish when bottle feeding was introduced, and for what reason.

## RESULTS

### (a) Methods of infant feeding used (Table I)

At the first interview, i.e. when the children were less than 6 weeks old, 89 of the 169 babies (52,7%) were being breast fed, 28 (16,6%) were receiving bottle feeds only, and 52 (30,7%) a mixture of both. When 80 of the "breast feeding" mothers were interviewed for the second time, 6 weeks later, i.e. when their children were between 7 and 12 weeks old, only half (40) were still giving breast milk alone, and 15 were not breast feeding at all. Thus by 7-12 weeks of age only 23,7% of the original 169 babies were receiving breast milk exclusively.

### (b) Age at which breast feeding was discontinued

Further analysis showed that the major decrease in the practice of breast feeding occurred in the first two weeks of life, after which there was a slow but steady decline. (Fig. 1).

### (c) Subjective reasons for discontinuation of breast feeding (Table II)

The reasons given for introducing bottle feeding both before and after 6 weeks, were analysed in detail. In both groups "insufficient quantity" or "poor quality" milk were the main reasons (65,1% in the first period and 52,5% in the second). Other significant problems included local breast complications (sore or inverted nipples or abscess formation) and return to work (not surprisingly a more common problem in the second time period). Less commonly, admission of the mother to hospital, lack of convenience or interest, or constipation of the baby were the reasons given for introducing bottle feeding.

(d) Analysis of other factors which might influence the choice of infant feeding practice

(i) Demographic features: The maternal age, parity and interval between pregnancies did not appear to influence the choice of feeding practice. As all the mothers were of a similar socio-economic group, no comparison could be made on this basis.

(ii) Education and support of mothers by health workers: Although the majority of mothers had received antenatal care, no formal attempt had been made previously to educate them about breast feeding, its problems or its advantages. In the post natal period, contact was made between the Local Authority and mothers either at the clinic on a routine visit, or in the home by a health visitor. It was significant and disturbing to find that by the end of two weeks after the birth, when many mothers had already ceased to breast feed, only 50.3% of the mothers had made such contact (Table III). The possible reasons for this were examined in detail. While there was little delay in establishing contact once the clinic had been informed of the birth, significant time was lost in notification of the birth to the Local Authority by the maternity unit and in processing the details before the clinic was informed. Dissatisfaction with either quality or quantity of the milk and local problems with the breasts thus dominated the mothers' reasons for either stopping or supplementing breast feeding. Complaints such as these often result from inexperience or the mothers' lack of knowledge.<sup>4</sup>

The role of breast feeding in this study although similar to that described elsewhere<sup>5,6,7</sup> is distressingly low. A programme was accordingly introduced whereby the mothers received increased support and education from the health personnel.

PHASE II - INTERVENTIVE PROGRAMME

1. The health personnel involved with the mother both ante- and post-natally were encouraged to promote breast feeding. A symposium was held which all the staff attended. Health visitors attended a series of lectures on breast feeding practices.
2. Nurses working in the maternity unit were encouraged to put the infant to the mother's breast immediately after delivery.
3. Contact between the health visitor and the new mother was considerably streamlined by speeding up the method of birth notification.
4. Breast feeding sessions were started at the Child Health Clinic. Mothers with problems, mothers who were successfully breast feeding and some prospective mothers attended. This resulted in discussion of problems and positive reinforcement of successful breast feeding.
5. Talks were given in the community on the advantages of breast feeding.
6. General practitioners were sent letters encouraging them to promote breast feeding and telling them of the services available.
7. Contact was made with the Breast Feeding Association and the telephone numbers of volunteers were made available to help mothers with problems.

PHASE III - PATTERNS OF INFANT FEEDING AFTER INTRODUCTION OF PROGRAMME

Approximately two years after this programme had been introduced a survey similar to the first was undertaken.

The study was performed in the same area. Socio-economic, age range and other demographic characteristics were similar and the questionnaire constant.

## RESULTS

At the first interview 94 (75,8%) of the 124 were still breast feeding which was a significant increase from the first survey when only 52,4% of mothers were breast feeding  $\chi^2 = 16,33$ ,  $p < 0,01$ . This trend continued when the 94 mothers who were originally breast feeding were interviewed for the second time 6 weeks later. Forty-eight, i.e. 38,7% of the original number interviewed were still breast feeding in comparison with the 23,7% in the previous study ( $\chi^2 = 7,7$ ,  $p < 0,01$ ) (Table IV).

It should be noted that the major change took place in the first 6 weeks. The percentage of breast feeding mothers continuing to do so at the time of the second interview was similar in both groups, i.e. + 50%.

## CONCLUSIONS AND LESSONS LEARNED

The study has shown a significant increase in breast feeding rate. One recognises that there are limitations to this study as there are an infinite number of variables which could have played a part, e.g. the mothers in the area were aware of the positive attitude of the staff towards breast feeding. This would have influenced the response of the mothers to the interview. Questions were put in such a way as to avoid making the mother feel guilty if she were unable to breast feed. Nevertheless the socio-economic status and several other demographic features were similar in the two groups studied, and we would like to suggest that the programme was at least partially responsible for the increase that occurred. Support is lent to this by the fact that contact between the Local Authority and mothers, was definitely streamlined in the second phase of the study (Table V).

It is often said that the health of a socially disadvantaged community will not improve without a change in their socio-economic status. This is undoubtedly true, but should not be used to rationalise complacency.

In the world in general, and in South Africa in particular, even given the correct administrative decisions, it will take many years to develop conditions which are optimally conducive to health. There is no attempt to advocate abrogation of our responsibility for social reform. Rather, if the education and supportive programmes described did contribute materially to the increase in breast feeding in the absence of social change, we suggest that education may provide a practical means whereby we, as doctors, can immediately participate in improving the health of the community.

#### Acknowledgements

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TABLE I.

## INFANT FEEDING PATTERNS IN HEIDEVELD

	<u>First interview</u>		<u>Second interview</u>	
	(infant aged 6 weeks)		(6 weeks later)	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>% of original 169 interviewed</u>
Breast fed	89	52,7	40	23,7
Bottle fed	28	16,6	15	8,9
Mixed	52	30,7	25	14,8
<b>Total</b>	<u>169</u>	<u>100</u>	<u>80</u> *	

\* 9 of the mothers were lost to follow up

TABLE 11

## REASONS FOR STARTING BOTTLE FEEDING

	<u>Before 6 weeks</u>		<u>7 - 12 weeks</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Insufficient milk	41	51,3	16	40,0
Sufficient milk, but "weak"	11	13,8	5	12,5
"Breast problem"*	12	15,0	2	5,0
Premature baby**	4	5,0	-	-
Return to work	1	1,2	8	20,0
Other***	11	13,7	9	22,5
Total	80	100	40	100

\* including sore or inverted nipples, or abscess development

\*\* in these infants breast feeding was never commenced

\*\*\* including admission of mother to hospital, lack of interest, inconvenience and constipation of baby

TABLE IVCOMPARISON OF THE BREAST FEEDING RATES IN THE  
HEIDEVELD AREA OF CAPE TOWN IN 1979 AND 1981

<u>Age of infant</u>	<u>1979</u>	<u>1981</u>
< 6 weeks	89 (52,7%)	94 (75,8%)*
6 - 12 weeks	40 (23,7%)	48 (38,7%)**

\*  $\chi^2 = 16,33, p < 0,01$

\*\*  $\chi^2 = 7,70, p < 0,01$

**TABLE III. AGE OF BABY AT TIME FIRST CONTACT WAS MADE BETWEEN LOCAL AUTHORITY AND MOTHER**

<u>Age in weeks</u>	<u>No.</u>	<u>%</u>	
< 1	2	1,2	} 50,3
1	23	13,6	
2	60	35,5	} 49,7
3	45	26,6	
4	21	12,4	}
> 5	18	10,7	
<b>Total</b>	<b>169</b>	<b>100</b>	

TABLE V

COMPARISON OF THE CONTACT BETWEEN THE LOCAL AUTHORITY  
AND MOTHERS OF INFANTS IN THE HEIDEVELD AREA OF CAPE  
TOWN IN 1979 AND 1981

<u>Age at which contact was made (weeks)*</u>	<u>1979</u>	<u>1981</u>
< 2	25 (14,8)	59 (47,6)
2 - 4	105 (62,1)	46 (37,1)
> 4	39 (23,0)	19 (15,3)

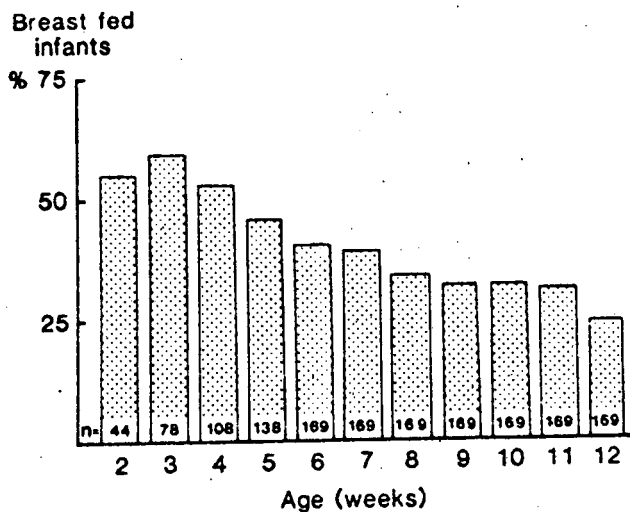
$$\chi^2 = 37,68, p < 0,01$$

\* Percentage of the group is in parenthesis

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FIG. 1



Each shaded column represents the percentage of the group who were receiving breast milk as the only source of nutrition. The number of children of each age group is shown at the foot of the column.