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BREASTFEEDING PRACTICES  
AMONG FACTORY WORKING MOTHERS AND  
HOUSEWIVES IN AKAKI BESEKA

BY

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Breast Feeding Practices Among Factory-Working  
Mothers in Akaki

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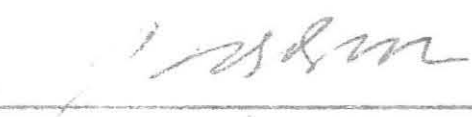
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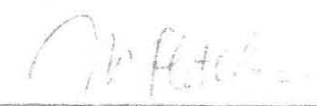
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TABLE OF CONTENTS

Title	Page
ACKNOWLEDGEMENT .....	i
LIST OF CONTENTS .....	iii
LIST OF TABLES .....	v
ABSTRACT .....	vii
1. INTRODUCTION	
1.1 Historical Background .....	1
1.2 The Trend In The Prevalence & Duration of Breastfeeding .....	3
1.3 Factors Related To The Declining In Prevalence & Duration of Breastfeeding In Developing country .....	6
1.4 Advantage of Breastfeeding .....	8
1.4.1 Nutritional value of breastfeeding.....	8
1.4.2 Anti-infective property .....	9
1.4.3 Anti-allergic Property .....	10
1.4.4 Other advantages for the baby .....	10
1.5 Economic Advantage Of Mothers Milk As National Resource .....	10
1.6 Objective of the study .....	11
1.6.1 Specific objective .....	12
1.6.2 Significance of the study .....	12
2. METHODOLOGY	
2.1 Selection Of The Study Area .. .....	13
2.2 Selection Of Study Population .....	13
2.2.1 Selection of factory working mother..	14
2.2.2 Selection of housewives .....	14
2.2.3 Registration of the study population.	14

2.3	Sampling Method And Size .....	15
2.4	Design Of The Questionnaire.....	15
2.5	Content Of The Questionnaire .....	16
2.6	Recruiting And Training Of Interviewers.....	17
2.7	Problem Encountered .....	17
2.8	Data Collection .....	18
3.	RESULTS .....	19
3.1	Coverage .....	19
3.2	Residence Of The Study Population .....	19
3.3	Mean Age Of The Study Population .....	19
3.4	Mean Age Of The Index Child .....	23
3.5	Prevalence Of Breastfeeding .....	23
3.6	Initiation Of Breastfeeding .....	23
3.7	Duration Of Full Breastfeeding .....	25
3.8	Weaning Age .....	25
3.9	Supplement To Breastfeeding .....	27
3.10	Reason For Supplementation .....	31
3.11	Reason For Stopping Breastfeeding .....	31
3.12	Frequency Of Breastfeeding .....	33
3.13	Attendance At Prenatal Clinic .....	33
3.14	Place Of Delivery Of The Index Child .....	37
3.15	Marital Status And Breastfeeding .....	37
3.16	Family Income In Relation To Breastfeeding...	40
3.17	Education Of Mothers In Relation To Breastfeeding .....	42
4.	DISCUSSION .....	44
5.	CONCLUSION AND RECOMMENDATIONS .....	48
5.1	Recommendations .....	49
Annex 1	Definitions .....	57
Annex 2	Questionnaires .....	58

LIST OF TABLES

		Age
Table I.	Sample size and Actual coverage.....	20
II.	Distribution of the study population By their Kebeles of Residents (01-11) in Akaki Beseka at the Time of survey..	21
III.	Distribution of the study population by age of Mother at the Time of Interview .....	22
IV.	Number (%) of Mothers Breastfeeding at the time of Interview by the Age of the Index Child .....	24
V.	Age at which Supplementary Foods were Introduced .....	26
VI.	Duration of Breastfeeding of the Second Youngest child by 6 months interval.....	28
VII-1	Type of Supplement Given to Breast- feeding Index Child by the Study population.....	29
VII-2	Reason for Introducing Supplementary Food .....	30
VIII.	Reason for Stopping Breastfeeding .....	32
IX.	Prevalence of Breastfeeding on Demand, Programme and Both at the time of Interview .....	34

	Page
X. Daily Frequency of Breastfeeding at the Time of Interview .....	35
XI. Attendance at a Prenatal Clinic by Number of Visits .....	36
XII. Place of Delivery of the Index child.....	38
XIII. Prevalence of Breastfeeding in Relation to marital Status in the 2 study groups .....	39
XIV. Breastfeeding Practice for the Index child categorized according to monthly Income of the Family as Declared by the Study Population at the Time of Interview.....	41
XV. Breastfeeding Practice Among the two Study Groups in Relation to mothers Educational Background for each specific group .....	43

ABSTRACT

A cross sectional study on practices of breastfeeding has been carried out from July 11 to July 30, 1986 in Akaki Beseka. All mothers who have children 0 - 24 months in Akaki Textile factory and housewives who have children of the same age group were selected randomly in order to determine the prevalence and duration of breastfeeding among the two groups. The result of the study indicated that prevalence of breastfeeding among factory working mothers was 77.79 % and that of housewives 91.71 % . The mean duration of breastfeeding among the study population was also determined. The prevalence and duration of breastfeeding were lower among factory working mothers than among housewives. The differences were significant both for the prevalence and duration of breastfeeding. The study findings will help to understand some of problems related to breastfeeding practices and may help in designing appropriate programmes by concerned government organizations to increase prevalence and duration of breastfeeding.

## 1. INTRODUCTION

### 1.1 Historical Background

Nature has provided each mammalian species with its own milk to meet the specific need of its young (1). Hence the reproductive cycle in mammals comprises both pregnancy and breastfeeding; in the latter, none of these species including man could have survived (2).

It is difficult to estimate what is the worldwide proportion of mothers who do not breastfeed their babies, it is unlikely to exceed 10%. This is supported by historical data of different countries and studies done in the rural areas of the underdeveloped countries (2).

Breastfeeding of the infant is natural and one of the oldest practices. An inherent awareness of the importance of breastfeeding seems to exist and is reflected by social norms that enforces breastfeeding as mothers' duty and children's right (3). Due to some reason or another wet-nursing (breastfeeding other than the biological mother) has been in practice for centuries (2,4). The practice of wet-nursing depends on the availability of women willing and able to provide this social service and of the system that supported and encourage of the practice. During the Greek and Roman civilization and later in mediaeval Europe using wet-nurse was a common practice among the economically privileged. The eighteenth century was the peak period for wet-nursing (4,5).

As social and economical development changed employment of wet-nursing has shown a decline. As interest in wet-nursing decreased, new knowledge about the preservation of human milk (milk bank) made other alternative possible. As infant-feeding formulas became more developed the interest in milk banks gradually decreased ( 2,4 ).

The use of cows milk for feeding older children has been an old practice (4). It is only in the second half of the eighteenth century that animal milk was accepted as an alternative to mothers milk and this was thought to replace breast milk and satisfy all the needs of the infant ( 2,4 ).

Pasteurization of milk, improvement of dairy farming, development of food technology, encouraged the wide spread use of artificial infant feeding in the majority of industrialized nations. Especially bottle-feeding was uncritically accepted to substitute mothers milk with a parallel decline in breastfeeding (4,5,6,7).

According to Bo Bahlquist (8) " A century and more passed before children in European countries could be reached with a reasonable chance of survival if they had been prematurely weaned. Still during the first decades of the 20<sup>th</sup> century in European countries breastfeeding for 6 months or more was rightly looked upon as priority number one in care of infants.... it was only in 1930 - 45 that a trend was noted towards an abbreviation of the time honoured duration of breastfeeding".

1.2 The Trend In The Prevalence And Duration Of Breastfeeding

Since 1930, there was a steady decline of breastfeeding in Europe and United States of America and other industrialized countries (9). Meyer from U.S.A. reports that the prevalence of breastfeeding on discharge from hospital fell from 38 % in 1946 to 21 % in 1956 and to 18 % in 1966 (10). However, in recent years decline of artificial feeding is observed in the developed countries in favour of breastfeeding. This is due to advance in biochemical and analytical science which has provided greater knowledge about human milk to the medical professionals as preferred methods of infant feeding (11,12,13,14,17,42). In the U.S.A. breastfeeding has noticeably increased among some population group (14). From 1971-1979 breastfeeding in hospitals has increased from 27.7 % to 51 % (14). By 1983 the nationwide incidence of breastfeeding at delivery has grown up to 61 % (11). In Norway in 1981 approximately 70 % of mothers were breastfeeding their infants for at least three months (12). In Rudecliff Hospital ( England ) a survey of babies born in the winter of 1972/73 showed that 37 % were breastfed; while in 1974/75 the figure was 52 % which is an increase of 15 % (15).

Although breastfeeding practice is common in developing countries, especially in rural areas, there is a rapid decline of breastfeeding practice in urban areas of these countries (16, 18, 19, 20 ).

In a study done in Chile 95 % of mothers breastfed their infants beyond the first year of life twenty years ago, In 1965, however, 80 % of the infants were weaned at six months of age (20).

In survey conducted in Lebanon 1961, and average duration of breastfeeding varies from 8.5 months among educated women to as long as 17.8 months among uneducated women (3).

In Ethiopia two surveys had been carried out on rates and duration of breastfeeding among various population groups (Urban elite, Urban poor, and traditional rural in 1976-77 and 1981 (21). The result of the first survey indicates that 8.6 % the urban elite and 2.7 % of the urban poor had not initiated breastfeeding at all while traditional rural areas, all mothers had initiated breastfeeding. The percentage of mothers who breastfed their infants until the end of the first six months were 57 % 91.8 % and 100 % in urban elite, urban poor and rural mothers respectively, Those mothers who breastfed their infants until the end of the first year were 41.1 %, 85.5 % and 99 % in urban elite, urban poor and rural mothers respectively. The result of the second survey ( 1981 ), the percentage of mothers who had not started breastfeeding did not show much difference except a slight decline in the urban elite. During the second survey there was an increase in duration of breastfeeding for urban elite and urban poor and the same for rural mothers (21).

A survey conducted in 1983 by Mekonnen and Zein in newly established agricultural cooperative in Gondar ( Ethiopia ), shows that the duration of breastfeeding is long among studied mothers. 29.3 % of them breastfeed their babies from 36 to 48 months (22).

A critical review of available information on prevalence and duration of breastfeeding by World Health Organization ( WHO ) 1982, summarizes that breastfeeding practices differ between regions countries and even between population groups within countries ( 23).

In Africa approximately 21 million born are breastfed usually for a long period. In East, West, and middle Africa breastfeeding is universal and is practiced among all social classes. The average duration for urban poor and rural group ranges from 14-33 months, the usual duration being 20 months. In Northern Africa prevalence is lower. However, 90 % of infants are breastfed, the lower prevalence recorded was 54 % in an elite group in Cairo. In South Africa prevalence rate is very high among black, and lower among white people (23).

In middle and South East Asia, breastfeeding is universal even among the urban elite group. In urban elite the average duration is about 6 months, 1-2 years among other groups. East South East Asia, in all rural areas the prevalence is high, over 80 % in Malaysia, over 90 % in Philippine, over 95 % in the Republic of Korea and Indonesia (23).

In Latin America the longer duration is among the rural population, but this is not as high as those in Africa and Asia. A average duration more than one year is rare (23).

In Europe initial prevalence rates range from 90 % in Finland and Sweden to 45 % in urban Ireland. The average duration is about 5 months in Sweden, but rather lower in Western Europe. In Eastern Europe ( Hungary and Poland ) the average duration is higher than Western Europe. The initial prevalence rate in Southern Europe is 50 % or higher (23).

In North America initial prevalence rate is 54 % at 5 - 6 months. The prevalence is currently 25 % (23).

The initial prevalence, rates in Australia and Newzeland are 70 % and 80 % respectively, higher than the developed countries (23).

### 1.3 Factors Related To the Declining In Prevalance and Duration of Breastfeeding in Developing Countries

The availablity and indiscriminate advertisement of breastmilk substitute is considered by many observers as one of the contributing factors to the declining of breastfeeding in developing countries ( 1, 2, 20 ).

Unlike developed countries industrialization in developing countries has not improved the socio-economic conditions of the underprivileged classes (23). The use of commercial infant formula is associated with a whole series of problems like poor environmental sanitation and water supply. invites infection. The unprivileged sector of the population is also unable to purchase sufficient infant formula so that overdilution may be inevitable for frequent feeding. Over diluted feeding will eventually lead to malnutrition of the young infant ( 2,3, 18, 20,24).

New life styles due to urbanization and industrial development and the dual role of working women has contributed to the decline of breastfeeding ( 3,16,18,24 ).

According to a working conference Organized by International Planned Parenthood and the International Union of Nutritional Science " Traditionally women's work had been in or near the home, much involved in child rearing. The emancipation of women, however, had changed this accepted domestic role and encouraged to seek salaried employment usually distant from their homes. This change has long been established in industrialized countries, but now the urban areas in the developing countries are adapting this practices (25).

Psycho-Social changes have also an effect on the decline of breastfeeding such as imitation of friends, personal embarrassment, fear of losing female attractiveness, stress, a lack of sympathy and inadequate advise given by nurses and doctors (26, 28, 33 ).

#### 1.4 Advantage Of Breastfeeding

Breastfeeding is an important factor in infant nutrition as a basis for a healthy child growth and development (27,29). The superiority of breastmilk over other kinds of milk as food for the human newborn whether premature or full term cannot be questioned (30).

Breastfeeding has a relative advantage both for the mother and the newborn. There is a variation between communities with low income to rich communities with high income. The point is that there are great advantages in both circumstances. However, in a relatively well to do society breastmilk is best, and in a poor community, it is a must being essential for the baby's survival (31).

Breastfeeding is ideally suited to the physiological and psychological needs of the infant. Recent scientific reasearch has shown that human milk, besides its nutritional and biochemical value, has antiallergic, anti-infective, immunological properties for the infant and other benefits for the mother (27,32,33).

##### 1.4.1 Nutritional value of breastfeeding :

Breastfeeding usually meets the nutritional needs of the young infant up to the age of four to six months. Depending on the individual baby supplementary diet could be introduced at the age of four months; but after six month introduction of supplementary food is a must ( 8,16,34).

High mortality and morbidity rates among mothers and children results from three interrelated conditions, malnutrition, infection and unplanned pregnancy. These problems do not occur in isolation from other adverse social and environmental factors. Breastfeeding is closely associated with all these interrelated maternal and child health problems ( 16,20,32 ). One of the strategies forwarded by WHO, UNICEF on breaking the cycle of malnutrition is GOBI ( Growth monitoring, Oral Rehydration Breastfeeding and Immunization ) (35). Breastfeeding and correct weaning play a crucial role in the prevention of malnutrition (8).

1.4.2 Anti-infective property : In the first week of life the breastmilk is of importance owing to the presence a large amount of secretory IgA in the colostrum which protects the infant from E.coli which is prevalent during the period of infancy ( 26,27, 30, 36 ). Breastmilk will protect the baby from gastroenteritis and upper respiratory tract infection. An important organism causing respiratory infection is syncytial virus if babies are exclusively breastfed they will be protected from meningitis and septicemia (33). Diarrheal diseases are far less common in breastfed infants ( 37 , 38 ).

1.4.3 Anti-allergic property :

Breastfed infants manifest fewer allergic diseases (26,35 ). An American study in Chicago that followed over 20,000 babies for a period of five years found that there were seven times as many babies with eczema in bottle-fed group as in those completely breastfed (33). In U.S.A. more than 30,000 babies are known to develop cows milk allergy (33).

1.4.4 Other advantage for the baby :

It is observed that there is less coeliac disease in breastfed infants. It seems likely that IGA coating of the gut lining in young breastfed babies may prevent this damage by gluten. Likewise, ulcerative colitis and pyloric stenosis are less common in breastfed infants (33).

1.4.5 Advantages for the Mother :

Lactation besides protective function by delaying ovulation it gives satisfaction and is convenient ( it needs no bottle or teast to wash and boil) for the mother (33,39).

1.5 Economic Advantage Of Mothers Milk As National Resource

Lactating mother, as a labour force she produces in a factory and as a mother she produces a unique valuable food for the infant from her breastmilk and this lactation process provides measurable benefitis to fertility reduction ( 40 ).

"Lactating Indonesian mothers currently contributes a value of U.S. \$ 520 million annually to the economy, a figure fully 10 % of 1978 exports, 3.5 % of the total national budget for 1980,81 and roughly 1.5 % of the G.N.P. (40 ).

" In Kenya the estimated annual loss in breastmilk was U.S. \$ 11.5 million which equaled two third of the national health budget" (20).

In addition by breastfeeding a mother can save the inevitable cost not only of the milk source, but also the expense of bottles and teats, cooking fuel, referigeration and spoilage which contributes substantially to the cost of bottlefeeding ( 40 ).

#### 1.6 Objective Of The Study

Inspite of the numerous advantages of breastfeeding the decline of breastfeeding practice in developing countries especially in the urban economically deprived communities is a serious problem ( 23, 31 ). Industrial development and urbanization does not allow prolonged breastfeeding, traditional mothering and child rearing ( 16, 25 ). The trend is now emerging as a problem in Ethiopia where industrial plants are developing.

Akaki Beseka 20 kms. from Addis Ababa is one of these towns with many industrial plants, comprising thousands of women engaged in factory work.

This survey will focus on the practices of breastfeeding among factory working mothers and housewives living in Akaki Beseka and assess the findings.

1.6.1 Specific objective :

- To determine the prevalence and duration of breastfeeding among factory working mothers and housewives.
- To provide information on practices of breastfeeding among working mothers and housewives.

1.6.2 Significance of the study .

- To give base line data for future study
- To motivate concerned government and women's association to provide day care centres for lactating mothers.
- x - To get peoples support for enecouragment of breast-feeding.

## 2. METHODOLOGY

### 2.1 Selection Of The Study Area

The idea of this study is based on the assumption that duration and prevalence of breastfeeding are declining in developing countries ( 14,23 ) especially in the areas where urbanization and industrialization are emerging.

Akaki Beseka 20 Kms. south east of Addis Ababa was chosen for the purpose of this study for the following reasons :

- Its proximity to Addis Ababa
- Similarity to other industrial towns.

### 2.2 Selection Of The Study Population

Akaki Beseka is administratively divided into two Kefetegnas (higher urban dwellers association and 11 Kebeles ( urban dwellers association ). There are 33 small and large industrial plants.

The population of the town is 54, 146 of which 25, 674 are males and 28, 472 female ( 41 ).

From the total population of 28, 472 women living in Akaki 3642 ( 12.79 % ) are factory employee.

2.2.1 Selection of factory working mothers :

With the given time and available resources it was difficult to take a sample population from other factories.

There-fore Akaki Textile factory was chosen for the purpose of this study on the basis that :

- It has the highest number of factory working women 1290 ( 35.42 % ) of the total women factory employees working in Akaki Beseka.
- Availability of records on delivery-maternity book

2.2.2 Selection of housewives

- Housewives were selected from the same town on the basis of similar socio-cultural background to factory working women.
- Availability of records of women in each Kebele.

2.2.3 Registration of the study population :

- From the list of Akaki-Textile factory working mothers who had delivered from July 1, 1984 to June 30, 1986 a total of 288 mothers name were recorded.

- With the form provided by the investigator, housewives who have children 0-24 were registered in each Kebele in cooperation with members of the women's association.

### 2.3 Sampling Method And Size

A cross sectional study was considered appropriate for this particular survey. The study was carried out on mothers who have children 0 - 24 months among factory workers and housewives to compare their breastfeeding practices.

From Akaki Textile factory the entire 288 sample was taken.

From the list of 1295 mothers registered in the 11 Kebeles of Akaki Beseka 15% ( 194 ) were selected randomly using random tables.

All together 476 mothers with children 0 - 24 months were included in the study.

### 2.4 Design of The Questionnaire

A questionnaire was designed on practice of breastfeeding and a pre - test was performed on a small selected sample working in Ethio-fibre factory in Akaki.

The adequacy of the questionnaire and the average time needed to complete the interview were estimated.

## 2.5 Content Of The Questionnaire

The questionnaire has 5 parts. The first part deals with the background information on mothers, like Socio-economic status, education, marital status, religion, ethnicity, occupation of mothers and husbands, monthly income and ownerships of dwelling.

The second part deals with parity number of live births, number of children alive, the age of the index child and utilization of health services by the study population.

The third part deals, with the feeding habits of the index child :

- what she feeds the index child at the time of interview
- frequency of feeding
- when the child stopped breastfeeding
- the type and first introduced supplementary diet
- reason for supplementation

The fourth part is about postnatal period.

The fiveth part deals with the feeding habits of the second youngest child. This particular question was presented for those mothers who have more than one child. Mothers with long interval of delivery were not taken as sample for this particular question because to determine the duration of breastfeeding, mothers with long brith interval may not recall how they breastfed the second youngest child. Mothers who breastfed for more than 24 months were taken as 24 months.

## 2.6 Recruiting And Training Of Interviewers

The interviewers were recruited from Akaki health center, All were health personnel 2 Health Assistants and one surveillance assistant. They were trained for one day on interviewing technique and how to report any difficulties or problems encountered to the investigator.

## 2.7 Problems Encountered

- Shift working hours: it was difficult to get those mothers working during the night.
- Annual leave, sick leave and maternity leave increased the number of absentees.
- Uneven and wide distribution of Kebeles

- House numbers were haphazard and difficult to detect
- Closed doors

#### 2.8 Data Collection

- Factory working mothers were interviewed at their working place
- Housewives at their home.

#### 2.9 Presentation of Results

Results are presented using tables and differences are presented in percentage; significance test is done where necessary using  $X^2$  or Z test.  $X^2$  is calculated using 2 x 2 table degree of freedom (1) and with Yates correction.

### 3. RESULTS.

#### 3.1 Coverage

From the total 288 factory working mothers who delivered between July 1984 to June 1986, 25 were excluded because they reside in Addis Ababa and 19 whose children had died before the time of interview. 27 ( 10.27 % ) of the 263 factory working mothers and 13 ( 6.70 % ) of the 194 housewives were not found during the survey for various reasons. A summary of the expected sample, initial sample, number of absntees and actual population surveyed are shown in Table I.

#### 3.2 Residence of the Study Population

Residence of the study population i.e factory workers and housewives are distributed in all Kebeles ( 01 - 11 ) in the town of Akaki Beseka Table II.

#### 3.3 Mean Age Of The Study Population

Mothers were asked their ages at the time of interview, and the age distribution was between 15-45 years. In both study groups the majority were in the age interval between 25-29 years over 30 % in factory workers and over 29 % in housewives Table III.

The mean age for factory workers was 31.01 years with S.D. of 6. The mean age for housewives was 28.91 years with S.D. of 6.24. The difference between the age of factory worker and housewives was significant (  $Z = 3.5$  ;  $P < 0.01$  ).

Table I. Sample Size and Actual Coverage of  
Factory Workers and Housewives.

Population	Expected sample	Excluded	Initial sample	No. of absentee	Actual coverage No. %
Factory workers	288	25	263	27	236 (89.73)
Housewives	-	-	194	13	181 (93.30)

Table 11. Distribution of The Study Population  
by their Kebeles of Residence (01-11)  
in Akaki Beseke at the Time of Survey.

Kebele	Factory workers		Housewives	
	No.	%	No.	%
01	45	19.07	12	6.63
02	27	11.44	8	4.42
03	22	9.32	30	16.57
04	3	1.27	4	2.21
05	24	10.17	12	6.62
06	15	6.36	16	8.84
07	3	1.27	13	7.18
08	48	20.34	25	13.81
09	30	12.71	23	12.71
10	10	4.24	22	12.15
11	9	3.81	16	8.84
Total	236	100.00	181	100.00

Table III. Distribution of the Study Population by Age of Mother  
at the Time of Interview

Age Interval	Factory workers		Housewives	
	No.	%	No.	%
15 - 19	2	0.85	7	1.87
20 - 24	35	14.83	48	26.52
25 - 29	73	30.93	53	29.28
30 - 34	64	27.12	44	24.31
35 - 39	48	20.34	20	11.05
40 - 44	11	4.66	7	3.87
45	3	1.27	2	1.10
Total	236	100.00	181	100.00

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### 3.4 Mean Age Of The Index Child

Mothers were also asked the age of the index child, the age distribution ranges from less than 2 weeks to 24 months. The mean age for children of factory workers was 13.22 months, with S.D. of 6.21 and housewives 12.30 months with S.D. of 7.01. There was no difference on the mean age of factory workers and housewives children. (  $Z = 1.72$  ;  $P > 0.05$  ).

### 3.5 Prevalence Of Breastfeeding

In each of the population groups studied, mothers were asked if they were breastfeeding the youngest child at the time of interview. The proportion of mothers who were breastfeeding the youngest child are shown in Table IV. The overall prevalence of breastfeeding among factory working mothers was 77.97 %. The overall prevalence of breastfeeding among housewives were 91.77 %. The prevalence of breastfeeding was higher among housewives compared to factory workers (  $X^2 (1) C = 13.35$  ;  $P = 0.01$  )

### 3.6 Initiation of Breastfeeding

Mothers were asked if they had ever started breastfeeding, after delivery of the index child. Breastfeeding was initiated by 100 % of factory working mothers and housewives.

Table IV. Number (%) of Mothers Breastfeeding their child at the  
time of Interview by the Age of the Index child.

Age group of Index child	Factory Workers		Housewives	
	Total No.	Breastfeeding No. %	Total No.	Breastfeeding No. %
0 - 3	15	15 (100)	25	25 (100)
4 - 6	36	36 (100)	26	26 (100)
7 - 9	23	21 (91.30)	21	20 (95.24)
10 - 12	38	24 (63.16)	33	30 (90.91)
13 - 15	39	32 (82.05)	12	10 (83.33)
16 - 18	38	26 (68.42)	25	21 (84.00)
19 - 21	25	16 (64.00)	17	14 (82.35)
22 - 24	22	14 (63.64)	22	20 (90.91)
Total	236	184 (77.97)	181	166 (91.71)

### 3.7 Duration Of Full Breastfeeding

The duration of full breastfeeding was determined by the age of introduction of supplementary food to the index child, Table V.

The mean duration of full breastfeeding among factory working mothers who had initiated supplementary foods by the time of interview was 1.9 months with S.D. of 0.88 months. The mean duration among housewives who had initiated supplementary foods by the time of interview was 3.29 months with S.D. of 1.87. The difference in the duration of full breastfeeding between the 2 study groups was significant (  $Z = 4.48$  ;  $P = 0.01$  ).

### 3.8 Weaning Age

To determine the weaning age ( the child's age when the last breastfeed was given ) by index child may underestimate the duration of breastfeeding because the majority of mothers were still breastfeeding at the time of interview. Therefore mothers were questioned on their previous experience with breastfeeding in particular for how long they had breastfed the second youngest child completely and with supplementary feeding.

Table V- Age at which Supplementary Foods were introduced

Population	No(%) of mothers introducing supplementary food by age of the index child at the time of interview						Total
	1 month	2 month	3 month	4 month	5 month	6 month	
Factory workers	87(39.57)	72(32.72)	54(24.55)	7(3.18)	-	-	220(100)
Housewives	29(22.31)	30(23.08)	14(10.77)	14(10.77)	17(13.08)	26(20)	130(100)

211 of factory workers ( 89.40%) and 118 of housewives (89.50 %) were able to respond. 88 of factory workers(41.71 %) and 120 of housewives ( 74.07%) had breastfed the second youngest child 24 months and above Table VI. The mean duration of breastfeeding of the second youngest child 14.03 months and S.D. of 7.42 for factory working mothers and the mean duration for housewives was 18.83 months with S.D. of 4.97. There was significant difference in the duration of breastfeeding between the two study groups. ( Z = 2.1 ; P 0.05 ).

### 3.9 Supplements To Breastfeeding

Mothers were asked what supplementary food was first introduced to the index child.

Among 220 factory workers who had introduced supplementary foods, 93.18 % had first introduced cows milk, 3.18 % formula milk and 3.64 % " Other foods" like cereals, vegetables, legumes etc.

Among 130 housewives who had introduced supplementary foods, 82.30 % first introduced cows milk, 5.38 % formula milk 16.92 % 'other foods ' which included cereals, eggs vegetables etc.

Table VII-1 Summarizes the results.

In both study groups cows milk or formula milk were given in bottles.

Table VI. Duration of Breastfeeding of the Second Youngest Child  
by 6 months interval

Population	No (%) children who stopped Breastfeeding				Total
	0-6 months	7-12 months	13-18 months	19-24* months	
Factory workers	71 (33.65)	38 (18.00)	14 (6.64)	88 (41.71)	211 (100.00)
Housewives	13 ( 8.02)	14 ( 8.64)	15 (9.26)	120 (74.08)	162 (100.00)

\*Mothers who were breastfeeding above 24 months were takes as 24 months.

Table, VII.1. Type of Supplements Given to Breastfed  
Index Child by the Study Population

Population	Total No.	No. (%) of Supplements		
		Cows Milk	Formula milk	Other food
Factory worker	220	205 (93.18)	5 (3.18%)	8 (3.64)
Housewives	130	101 (82.30)	7 (5.38%)	22 (16.92)

Table VII.2. Reason for Introducing Supplementary Food

Reason	Factory workers		Housewives	
	No.	%	No.	%
Breast Dry	5	2.27	16	12.31
Back to work	156	71.82	-	-
Child health	24	10.91	64	50.77
Other reason	33	15.00	48	36.92
Total	220	100.00	130	100.00

### 3.10 Reason For Supplementation

Open ended question were presented to mothers of both study groups concerning the reason for introducing supplementary diet for the index child. 158 ( 71.82 % ) the factory workers' response was " back to work " 66 ( 50.77 % ) of the housewives responded for the health and development of the child. Table VII-2. Other reason includes "breast alone is not enough " , " the child was sick" " child prefers bottle " etc.

### 3.11 Reason For Stopping Breastfeeding

The questions on stopping breastfeeding were closed and open ended; because mothers were expected to give their own reasons, which was put under the title other reason. According to mothers response " other reasons included " the child failed to suck ", "insufficient milk ", " child favoured bottle " etc.

Twenty two(43.31 %) of the factory working mothers responded "breast dry " and of the housewives is (100 % ) gave other reason for stopping breastfeeding.

In both study groups neither of them responded that pregnancy was the reason or that breastfeeding affects health and changes shape of the breast. Table VIII shows the reasons for stopping breastmilk.

Table VIII. Reasons for Stopping Breastfeeding

Reason	Factory Workers		Housewives	
	No.	%	No.	%
Breast dry	22	42.31%	-	-
Pregnancy	-	-	-	-
Back work	13	25.00%	-	-
Breastfeeding affect health	-	-	-	-
Breastfeeding change shape of the breast	-	-	-	-
Child Died	-	-	-	-
Other reason	17	32.69%	15	100%
Total	52	100.00	15	100.00

### 3.12 Frequency Of Breastfeeding

Mothers were asked whether their index child was breastfed, on demand, programme; or on both and they were also asked how often they breastfed their babies, Table IX and X shows the prevalence of these feeding patterns among factory workers and housewives.

The percentage for factory workers on demand<sup>u</sup>, programme, both, were 71.08 %, 6.63 %, 22.29 % respectively.

The prevalence on demand was high on both study groups.

$$(X^2_{(2)_c} = 17.92 ; P : 0.001 )$$

### 3.13 Attendance Of Prenatal Clinic

Visits to the prenatal clinic can be important from the point of view of preparing the mother for child care and breastfeeding, therefore mothers were asked whether they had attended a prenatal clinic and if so, how often Table XI, Summarizes the responses 232(98.31 %) of the factory workers had the chance to attend a prenatal clinic as compared to 99(54.70 %) of housewives. There was a very high significant difference between the study group in the use of prenatal clinic ( $X^2_{(1)_c} = 116.35 ; P : 0.0001$ ).

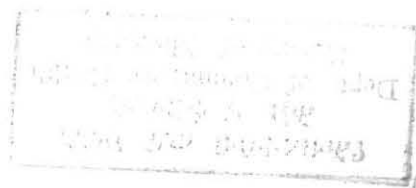


Table IX. Prevalence of Breastfeeding on Demand  
Programme and Both at the Time of  
Interview

Population	Demand		Programme		Both		Total	
	No	%	No	%	No	%	No	%
Factory workers	93	(50.54)	33	(17.93)	58	(31.53)	184	(100.00)
Housewives	118	(71.08)	11	( 6.63)	37	(22.29)	166	(100.00)

Table X. Daily frequency of Breastfeeding.  
At the Time of interview

Population	Daily Frequency of Breastfeeding				
	1 - 3	4 - 6	7 - 10	Unknown	Total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Factory workers	46 (25)	39 (21.20)	1 (0.54)	98 (53.26)	184 (100.00)
Housewives	18 (10.84)	14 ( 8.44)	4 (2.41)	130 (78.31)	166 (100.00)

Table XI. Attendance at a Prenatal Clinic by number of Visits.

Mother	No. of Visits									
	None		1 - 3		4 - 9		7 - 9		Total	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Factory workers	4	(1.69)	10	(4.24)	74	(31.36)	148	(62.71)	236	(100.00)
Housewives	82	(45.40)	30	(6.57)	51	(28.18)	18	(9.94)	181	(100.00)

### 3.14 Place Of Delivery Of The Index Child

The study groups were also asked where had they delivered the index child 153 ( 64.83 % ) of factory workers had delivered the index child in a health institution, while 45 ( 24.86 % ) of housewives had delivered the index child in a health institution. The difference was highly significant  $X^2 (1)_C = 64.02$ ;  $P = 0.0001$  . The place of delivery is shown in Table XII.

### 3.15 Marital Status And Breastfeeding

The study has looked at the relation between marital status and breastfeeding in the two study groups. The results are summarized in Table XIII.

The prevalence of breastfeeding among married factory workers were 163 ( 82.83 % ) as compared to unmarried 20 ( 52.63% ) . The difference was significant  $X^2 (1) = 7.12$  ;  $P = 0.01$  ) . The prevalence of breastfeeding among married housewives was 152 ( 92.68 % ) as compared to unmarried 14 ( 82.35 % ) housewives. There was no significant difference between married and unmarried (  $X^2 (1)_C = .02$  ;  $P = 0.05$  ) . The prevalence of breastfeeding was high among married 316 ( 87.29 % ) of the two study groups as compared to unmarried 34 ( 61.82 % ) . The difference was significant (  $X^2 (1)_C = 18.38$  ;  $P = 0.001$  ) .

Table XII. Place of Delivery of the Index Child

Mother	Home		Health Institute		Total	
	No.	(%)	No.	(%)	No.	(%)
Factory workers	83	(35.17)	153	(64.8)	236	(100)
Housewives	136	(75.14)	45	(24.86)	181	(100)

Table XIII. Prevalence of Breastfeeding in relation  
to Marital Status in the 2 study groups.

Marital Status	Factory workers		Housewives	
	Total No.	Breastfeeding	Total No.	Breastfeeding
		No. %		No. (%)
Married	198	164 (82.83)	164	158 (92.77)
Single	13	9 (69.23)	9	7 (77.78)
Divorced	23	9 (39.13)	3	3 (100.00)
Widowed	2	2 (100.0)	5	4 (80.00)
Total	236	184 (77.97)	181	166 (91.71)

### 3.16 Family Income In Relation To Breastfeeding

Mothers were asked their monthly family income in Ethiopian Birr at the time of interview. Both factory workers and housewives declared their own salary and that of the husband, if married as a source of monthly family income. A few of the housewives who were not married at the time of interview they were "tella sellers" and "house maids" and their monthly family income was categorized according to the information they declared. The relation of family income to the breastfeeding practice of the index child is summarized in Table XIV. The prevalence of breastfeeding among factory workers who had family income of Birr 50-99 were 56.25 % as compared to family income above Birr 100 was 77.09 %. Family income has showed no significant difference on prevalence of breastfeeding in factory working mothers. ( $X^2_{(1)} = 3.45 ; P . 0.05$  ).

The prevalence of breastfeeding among housewives who had family income of Birr 50-99 was 94.93 % as compared with those family income was above Birr 100 being 89.22 % . Family income showed no significant difference on prevalence of breastfeeding in housewives ( $X^2_{(1)} = 3.45 ; P 0.05$  ).

Table XIV. Breastfeeding Practice of the Index Child  
 Categorized according to monthly Income of  
 the Family as Declared by the Study Population  
 at the Time of Interview

Monthly Family Income	Factory workers		Housewives	
	Total No.	Breastfeeding No. (%)	Total No.	Breastfeeding No. (%)
50 - 99	16	9 (56.25)	79	75 (94.94)
100 - 149	30	23 (76.67)	38	25 (92.11)
150 - 199	41	33 (80.46)	30	26 (86.67)
200 - 249	40	31 (77.50)	17	15 (88.23)
250 - 299	34	31 (91.18)	3	3 (100.0)
300 +	75	57 (76.00)	14	12 (85.72)
Total	236	184 (77.97)	181	166 (91.71)

3.17 Education Of Mothers In Relation To Breastfeeding

Mothers were asked their educational background at the time of interview. The results of the two study groups are shown in Table XV.

The prevalence of breastfeeding among illeteriate factory workers wa 75 % as compared to literate 78.07 %.

There was no significant difference on prevalence of breast-feeding among illeterate and literate factory working mothers. ( $\chi^2_{(1)C} = 0.5 ; P = 0.05$  ).

The prevalence of breastfeeding among illeterate housewives were 94.12 % as compared to literate 91.46 %. There was no significant difference on prevalence of breastfeeding among illeterate and literate housewives. ( $\chi^2_{(1)C} = .007 ; P = 0.05$  ).

Table XV. Breastfeeding Practices Among the Two Study Groups in Relation to Mothers Educational Background for each Specific Group

Mothers Education	Breastfeeding Practices in No. (%)			
	Factory workers		Housewives	
	Total No.	Breastfeeding No. (%)	Total No.	Breastfeeding No. (%)
Illiterate	8	6 (75.00)	17	16 (94.12)
Read & write	126	105 (83.33)	93	89 (97.70)
Elementary	81	62 (76.54)	55	49 (89.09)
Junior high school	11	8 (72.72)	4	3 (75.00)
Senior high school	4	- -	9	7 (77.78)
12 +	6	3 (50.00)	3	2 (66.67)
Total	236	184 (77.97)	181	166 (91.71)

/43/

#### 4. D I S C U S S I O N

The present survey on breastfeeding practices in Akaki Beseka among factory workers and housewives indicates that the majority of factory working mothers 77.97 % and the majority of housewives 91.71 % were breastfeeding the index child at the time of survey.

The prevalence of breastfeeding among housewives is similar to Gebreselassie survey in Debre Tabor (43). According to that survey " The majority of infants studied ( 91.2 % are breastfed".

In the present study breastfeeding had been initiated by 100 % factory workers and housewives, this is in agreement with Zewdie 1981 survey in Rural Ethiopia ( 21 ).

Similar to the present study, surveys had been carried out by Marchione and Elisabet (44) in 1982 in three different cities of developing countries, Daresalam, Colombo and Sao Paulo on factory working mothers and housewives ( house working mothers ), reports indicated " breastfeeding was initiated by over 97 % of factory working mothers and housewives in Daresalam and Colombo, while Sao Paulo 92 % of factory workers and 86 % of housewives initiated. The prevalence of breastfeeding of the three cities among factory workers were, 39 % , 50 % , 16 % Daresalam, Colombo and Sao Paulo respectively. Prevalence is very low compared to Akaki factory workers ( 77, 97 % ).

The prevalence of breastfeeding in the three cities, among housewives were 58.%, 55 % and 24 % Dareselam, Colombo, and SaoPaulo respectively. Compared to Akaki housewives ( 91.71 % ) the prevalence is very low. in the three cities.

The mean duration of full breastfeeding in the present survey for factory workers was 1.91 months and 3.29 months for housewives. The study by Marchione and Elisabet in the above mentioned cities Dareselam, Colombo and SaoPaulo the mean duration for factory workers was 13.0 weeks, 8.5 weeks and 4.4 weeks respectively. Compared to Akaki factory workers Dareselam factory working mothers had longer duration of full breastfeeding, Colombo was similar, while SaoPaulo had the shortest duration of full breastfeeding among housewives of Dareselam, Colombo, and SaoPaulo were, 15 weeks 13.5 weeks, 5.4 weeks respectively compared to Akaki housewives, Dareselam housewives had longer full breastfeeding, Colombo was similar and SaoPaulo had the shortest period in full breastfeeding.

The weaning age of mean duration of breastfeeding of Akaki factory workers was 14.3 months and 18.83 months for housewives.

The mean duration for factory workers of Dareselam, Colombo and SaoPaulo was, 46 weeks 14.8 weeks, 9.9 weeks. In all three cities the duration is shorter than was found in Akaki,

The mean duration of housewives of Daresalam, Colombo and SaoPaulo was 46.0 weeks, 24.0 weeks, 10.9 weeks respectively. The mean duration of breastfeeding in the three cities was much shorter than among the housewives in Akaki.

In the three cities studied by Marchione and Elisabet, the mean duration of full breastfeeding was shortest among factory working mothers compared to housewives. This is consistent with the present survey in Akaki.

The majority of factory working mothers ( 72.29 % ) of Akaki Beseka start supplementary diet at less than 3 months of age. At 4 months 100 % of them had introduced supplementary diet, as compared to housewives the majority of the housewives 54.62 % introduced supplementary diet after 3 months of age 20 % of housewives continued full breastfeeding up to six months.

The reason for early introduction of supplementary as foods as indicated by the majority of factory working mothers ( 71.82 % ) was " back to work ".

All housewives ( 100 % ) who had introduced supplementary food have different reasons so it is difficult to reach a fair conclusion.

Early introduction of supplementary diet affects the duration of full breastfeeding and this was reflected in the present survey, 100 % of factory workers had started supplementary diet at the age of 4 months.

Greater than 98 % of factory working mothers had a chance to attend prenatal clinic, and the majority, of them ( 64.83%) had delivered the index child in a health institution. Compared to housewives 54,70 % had a chance to attend prenatal clinic, and 24.86 % had delivered in a health institution.

As regards the part played by health services in encouraging breastfeeding there was no evidence of an association between frequent attendance at prenatal clinic, delivery in a health institution among factory working mothers, and higher prevalence and prolonged full duration of breastfeeding. This inverse association can be due to the selection of the study samples.

In this particular study the prevalence of breastfeeding was higher among married mothers. This may be attributed to the possibility that married mothers may have the support of their husbands in encouraging breastfeeding of their child.

Neither family income nor mothers' education showed influence on the prevalence of breastfeeding in the two study groups.

## 5. CONCLUSION AND RECOMMENDATIONS

The survey has confirmed to a certain degree that the prevalence of breastfeeding was less in factory working mothers as compared to housewives. The result has also revealed that the duration of full breastfeeding was shorter among factory working mothers than housewives. Early supplementation affects the biological option of full breastfeeding that should be continued for six months. Early supplementation was very much higher in factory working mothers. One of the reasons as indicated by factory workers was having to return to work is important in early supplementation of liquid and solid diet, and declining effect on full breastfeeding. As the study indicates factory working mothers had high utilization of prenatal and delivery care, but the prevalence of full breastfeeding tended to be less common among the mothers who had received the greatest amount of prenatal care. The main reason in the decline of prevalence of and full breastfeeding among factory working mothers is that the factory working mothers will return to work after 45 days of maternity leave.

In both study groups the " Traditional phase " (23) of high prevalence and duration of breastfeeding is declining. Therefore in order to increase the prevalence and duration of breastfeeding the following recommendations should be considered.

### 5.1 Recommendations

Recognition of the dual role of women in that they work outside home as producer and at home, as mothers in bearing and rearing children is an essential part of the national development.

Mothers health has to be safeguarded during prenatal and post-natal periods and the protection should continue until the child is at least six months. At the same time the health and well being of the child, should be considered. Reports of many studies indicate that full breastfeeding up to six months is essential for healthy growth and development of the child.

In order to facilitate this practice the following measures should be considered for factory employed mothers.

1. A six months maternity leave to a factory working mothers.
2. Provide facilities for working lactating mother in or near factories to breast feed during working hours. This could be facilitated by the Ministry of Labour and Social welfare and the Ministry of Industry, Trade Unions or Womens' associations etc.
3. Promotion of breastfeeding within the health care system is primary and essential. The availability of health services alone does not promote the practices of breastfeeding.

Reorientation of health professionals at all level is of  
ut most importance in promoting breastfeeding practices  
breastfeeding should be integrated as an essential  
component of nutrition through out the curriculum of health  
workers.

4. Research in the major aspects of breastfeeding like lactation  
and amenorrhoea, the impact of work on breastfeeding,  
should be carried out.
  
5. For better and successful breastfeeding practices the  
M.C.H. programme should be strengthend.

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A N N E X 1

D E F I N A T I O N

Duration of breastfeeding Weaning age at which the second youngest child had the last breastfed.

Full breastfed The age of the index child at which foods other than breastmilk were introduced.

Factory working mother-Formal employee by Ministry of Industry or wage labour covered by law working in Akaki Textile factory.

Housewives.- A mother who is non employed working at non-employed working at home, she can be single or married or divorced.

Initiation of breastfeeding Whether or not the index mother even began to breastfed the index child.

A N N E X 2

Q U E S T I O N N A I R E

Breast feeding Practices Among Factory Working  
mother and House-wives in Akaki Beseka - 1986

1. Background Information.

1. Name of Mother \_\_\_\_\_ Age \_\_\_\_\_
2. Town \_\_\_\_\_ Kefteгна \_\_\_\_\_ Kebele \_\_\_\_\_ House No. \_\_\_\_\_
3. Date of interview completed, day \_\_\_\_\_ month \_\_\_\_\_ year \_\_\_\_\_
4. Place of interview.  
Home \_\_\_\_\_ Work Place \_\_\_\_\_
5. Marital Status  
Single \_\_\_\_\_ Married \_\_\_\_\_ Divorced \_\_\_\_\_ Widowed \_\_\_\_\_
6. Educational level of mother :  
Illiterate \_\_\_\_\_ Read and write \_\_\_\_\_  
Elementary School completed \_\_\_\_\_  
Junior high school \_\_\_\_\_  
Senior high School \_\_\_\_\_  
12<sup>th</sup> grade and above \_\_\_\_\_
7. Religion: Christian \_\_\_\_\_ Muslim \_\_\_\_\_ Other \_\_\_\_\_
8. Ethnic group of mother  
Amhara \_\_\_\_\_ Oromo \_\_\_\_\_ Tigre \_\_\_\_\_  
Gurage \_\_\_\_\_ Others \_\_\_\_\_
9. Occupation of mother  
Housewife \_\_\_\_\_ Factory worker \_\_\_\_\_
10. Occupation of father  
Office worker \_\_\_\_\_ Factory worker \_\_\_\_\_ Other \_\_\_\_\_

11. Monthly income

Mothers salary \_\_\_\_\_

Husbands salary \_\_\_\_\_

Others \_\_\_\_\_

12. Ownership of dwelling

Owned \_\_\_\_\_ Rented \_\_\_\_\_ Live with other \_\_\_\_\_

Dependent \_\_\_\_\_

II. Maternity Experience

13. Number of children born alive \_\_\_\_\_

14. Number of children \_\_\_\_\_

15. Number of children under two years \_\_\_\_\_

16. Age of the second youngest child \_\_\_\_\_

17. Age of the index child \_\_\_\_\_

18. Where you attending MCH clinic while you were pregnant ? Yes \_\_\_\_\_ No \_\_\_\_\_

if yes, for how many times \_\_\_\_\_

19. Where was the index child delivered ?

Home \_\_\_\_\_ Health institution \_\_\_\_\_

20. Was your index child vaccinated ?

Yes \_\_\_\_\_ No \_\_\_\_\_

21. If yes, How many times \_\_\_\_\_

III. Feeding habit of the index child

22. What are you feeding the index child ?

Breast only \_\_\_\_\_

Breast and other \_\_\_\_\_

Cows milk only \_\_\_\_\_

Formula milk only \_\_\_\_\_

23. Is the index child breast feeding presently ?  
Yes  No
24. How is the index child breastfeed ?  
on demand  Programmed  both
25. How many times is child breast fed during the day (24 hrs)?  
Time \_\_\_\_\_ Unknown \_\_\_\_\_
26. How long did the index child exclusively breastfed \_\_\_\_\_
27. What did you introduce first, except water or your own breast milk  
Cows milk  fruit juices   
formul milk  Other
28. At what age, was the first cows milk or formula milk introduced ? \_\_\_\_\_
29. Why did you start supplementary diet \_\_\_\_\_
30. If the child is not breast fed, how old was the child when breast feeding stopped completely \_\_\_\_\_.
31. Why did you stop breast feeding \_\_\_\_\_  
Breast dry   
Back to work   
Breast feeding affects health   
Breast feeding change shape of breast
32. If never breastfed mother is sick   
child is sick   
other

IV. Return of Menustration after delivery of the index child.

33. How many onths after delivery of the last child  
did the mother have her first menustration \_\_\_\_\_

V. Second youngest child

34. How long did the second youngest child  
exclusively breastfed ? \_\_\_\_\_

35. How long did the second youngest child breastfed ?  
\_\_\_\_\_.

DECLARATION

I, the undersigned, declare that this thesis  
is my original work and has not been presented  
for a degree in any other university.

Name : Shimelès Bekele

Signature : \_\_\_\_\_

Date of Submission 25/02/79

Addis Ababa University