BREAST FEEDING AND WEANING PRACTICES AMONG PAKISTANI AND CHINESE COMMUNITIES IN NEWCASTLE upon TYNE

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ABSTRACT

Objectives

The objectives of this study were to determine the patterns of breast feeding and weaning among the Pakistani and Chinese communities in Newcastle upon Tyne. The study also assessed the needs and priorities of the mothers in these communities about support from health workers and other sources of advice on feeding.

Design

The study was carried out in two municipal wards of Newcastle upon Tyne, viz. Elswick and Fenham for the Pakistani community and the whole of Newcastle for the Chinese community. A stratified sampling method was used in which the sample was stratified according to their ethnic minority groups and a sample of 67 mothers from the Pakistani community was selected using a snowball sampling method. Twenty mothers from the Chinese community were selected using a simple random sampling method. The study was cross sectional using a structured questionnaire.

Setting

The setting was Newcastle upon Tyne in two wards in which a large proportion of the Pakistani community is concentrated. The whole of Newcastle upon Tyne was used as a sampling frame for the Chinese community which is dispersed throughout the city.

Main outcome

The rate and duration of breast feeding in the Pakistani and the Chinese communities, the main reasons for not breast feeding, the reasons for discontinuation of breast feeding, the mothers' knowledge and attitude towards breast feeding and weaning, the profiles of breast feeding/non breast feeding mothers and the profiles of mothers who wean early or late were determined.

Results

47.8% of the Pakistani and 30% of the Chinese mothers breast feed their children at birth. 3% of Pakistani and 5% of the Chinese mothers breast feed exclusively. All the Pakistani mothers used commercial weaning preparations while 41% of the Chinese mothers used home made preparations.

Conclusions

There is still a need to promote breast feeding in both the Pakistani and Chinese communities so that the rate and duration of breast feeding would be similar to those in their countries of origin which are Pakistan, where the breast feeding rate was 90 % at birth, and the People's Republic of China, where it was 75 % in the rural and 49 % in the urban areas.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. INTRODUCTION

Breast feeding is recognised as the central component of good child feeding practice worldwide. Breast milk provides for all the nutritional needs of the infant, protects the vulnerable young infant against intestinal and respiratory infections and provides the emotional links between the mother and the baby. The recent decline in breast feeding, in many countries especially in South-East Asia is deeply disturbing and often has tragic consequences.

Figures from the United States, the United Kingdom and countries of Northern Europe show a continuing decline in the rate and the duration of breast feeding over the last fifty years, until 1970, when the downward trend was beginning to be reversed, especially in Northern Europe.(1)

Immigration to Great Britain from the rest of the world has been occurring for centuries, but the time where most immigration occurred was between 1950 and 1970, when coming to Britain offered an opportunity for families from economically poor countries to improve their standards of living.(2)

It is of importance and interest to the health professionals to learn how immigrant mothers adapt culturally to their new environment and how this influences the pattern of breast feeding and weaning of their children.

After arriving in the United Kingdom most of the immigrant mothers had no wish to breast feed their babies because of wrong information or misconceptions about breast feeding practices amongst the indigenous British. The Asians had largely adopted the British practice of introducing solid foods to their babies' diet but the habit of the African and Chinese mothers in this aspect has changed little. (3)

This study attempts to look at the feeding practices among the Pakistani and Chinese communities with particular focus on patterns of breast feeding and weaning.

2. LITERATURE REVIEW

Among the ethnic minorities in Newcastle upon Tyne, the Chinese and the Bangladeshi communities are known to include some of the most recent immigrants with the most severe language and health problems and with low occupational status. Most of the Chinese in the area came from Hong Kong. The majority come from the New Territories. The rest of them came from South East Asia including the new arrivals from Vietnam.

Prior to the publication of the Home affairs Committee Second report on "Chinese community in Britain" (1984-85), little was known and accepted about the needs of the Chinese community. (4)

Despite the presence of a fairly large Chinese community in the United Kingdom, relatively few studies have been done on the health and nutritional problems in these communities.

In the People's Republic of China it was found in 1985 that breast feeding rates in rural area was 75 per cent as compared with the lower urban rate of 49 per cent. In the villages of China breast feeding has been a time honoured

tradition. Women in villages usually marry earlier, have stronger physique and have less availability of milk substitutes as compared to their urban counterparts. In part, these factors account for the difference in breast feeding rates between urban and rural areas. (5)

In contrast with the People's Republic of China, a study on infant feeding practice among the Chinese in Glasgow(3)(6) found that the Chinese appeared to have given up breast feeding after arriving in Britain. Thus only 2% of the Chinese babies born in Glasgow were breast fed while 81% born in Hong Kong of the same mothers in the study were breast fed. The reasons given by the Chinese mothers in Glasgow for not breast feeding include :

(a) inconvenience (70%)
(b) insufficient milk (20%)
(c) "Unfashionable- we are not living in a village like Hong Kong" (5%)
(d) miscellaneous (5%).

In a study on breast feeding among poor Singaporeans, it was found that only 26% of the Chinese favoured breast feeding. (7)

A study on the diet and state of nutrition in Pakistani infants under 18 months of age in Bradford, Yorkshire, in 1965 found that nearly 70 % of the Pakistani infants were removed from the breast within 3 weeks of birth and artificially fed according to current British methods at that time. The basic reason seemed to be that artificial feeding was part of the new environment. (8)

In Pakistan it was found that 90% of infants at birth were breast fed irrespective of their socioeconomic status. The duration of breast feeding was the longest in low income groups. In the low socioeconomic group 94% of infants were breast fed and it decreased to 34% by the end of the first year. (9)

Another study of breast feeding and early weaning of infants of Asian immigrants in Wolverhampton found a striking reduction in the incidence and duration of breast feeding on arrival in the United Kingdom, and a fall in the age of weaning. The availability of an alternative to human milk is the most important factor reducing the incidence of breast feeding. Only 4% of the infants followed prospectively were breast fed for 4-6 weeks. Reasons for not breast feeding were sought and the results indicated that the majority of mothers were frightened, misinformed or apathetic about breast feeding. The results were fear of

insufficient milk (38%), previous failure of breast feeding (10%), embarrassed by breast feeding (24%), artificial milk superior to breast milk for babies (21%), breast feeding not fashionable in Britain (14%), intention of working (10)% and other reasons (31%). (10)

In immigrant communities general standards of hygiene may be poor and when this is combined with a lack of knowledge of the proper cleaning of feeding bottles, diarrhoea is a major risk. (11)

In a nutritional survey of Bangladeshi children aged under 5 years in the London Borough of Tower Hamlets, it was found that weaning tends to be late, with predominant milk drinking, even into the second year of life. Convenience baby foods, containing mainly carbohydrates are the major components of the diet until well into the second and third years of life, without the conversion to family food seen in white children. (12)

Many Asian mothers will not feed colostrum. They may give sugar and water at first and start breast feeding on the second or third day. Studies indicate that the majority of babies are breast fed only for a very short time or not at all in contrast to the feeding patterns of previous babies born in Asia but this varies with the subethnic group. The

availability of an alternative to human milk may be a factor but misconceptions about British feeding practices are also important. Over the last decade the overall rate of breast feeding in the general British population has increased but this has occurred less in lower socioeconomic groups. The low incidence of breast feeding in the Asian groups may only reflect their low socioeconomic status. (2)

Apart from the data supplied by the maternity and mortality statistics, good representative information on the health and social status of ethnic minorities in Britain is scarce, though both the health and welfare services, and the minorities themselves, are increasingly anxious to have it. Random sampling of minority populations is costly in time and labour, and as yet the large samples of ethnic minorities financed by public resources have been concentrated on questions of education, employment and housing. (13)

On a study of infant feeding in England and Wales in 1975, the incidence of breast feeding was defined as the proportion of babies who were put to the breast at all, and on this basis the survey found that 51% of the babies in the sample had been breast fed initially. By the age of six weeks only 24% of the babies were still being breast fed, and the proportion had fallen to 13% by four months.

Despite the current recommendation that mothers should breast feed for the first four to six months and delay solid foods until at least four months, an insignificant proportion of mothers were completely breast feeding at four months without the addition of either artificial milk or solid food. (14)

From 1980, improvement in breast feeding prevalence and duration had ceased. In 1980, 65% of babies were breast fed at birth; in 1985 it was 64%. The percentage of first babies breast fed at birth has declined from 74% in 1980 to 65% in 1985. (15)

Pakistani families come from a background where breast feeding is a common practice and well established in their culture. They have moved into a culture where there is scientific support for breast feeding. Yet there is a decline in the prevalence of breast feeding. This study attempts to find the causes of this decline of breast feeding in the ethnic communities of Britain.

3. THE PURPOSE OF THE STUDY

The aim of this study is to look at the feeding practices in the Pakistani and Chinese families of children under 24 months in Newcastle upon Tyne. It particularly focuses on breast feeding patterns and weaning practices in Newcastle. A previous study on the feeding practices in the Bangladeshi community found that breast feeding and weaning practices were in part unsatisfactory. The Bangladeshi mothers will not give their children colostrum and the weaning foods used were commercial weaning foods containing no meat.

3.1 Objectives

1. To determine the pattern of breast feeding in the Chinese and Pakistani communities in Newcastle upon Tyne.

2. To determine the weaning practices of children under 24 months in these communities.

3. To determine the knowledge and attitude of women on breast feeding and weaning.

4. To determine problems encountered by women in the course of breast feeding and weaning, and the support sought.

5. To determine the needs and priorities of mothers concerning support from the health workers and other sources of advice on feeding practices and problems.

6. To make recommendations on how to alleviate the problems encountered by mothers on breast feeding and weaning.

3.2 Hypothesis

1. There is a low rate and duration of breast feeding in the Pakistani and the Chinese communities. (The World Health Organisation recommends that 80% of infants should be breast fed for at least 4 months after birth). (5)

2. Weaning practices of both the Pakistani and Chinese communities are unsatisfactory, particularly in weaning too early (before the age of four months) and their reliance solely on commercial weaning preparations.

4. METHODOLOGY

4.1 Study area

The study was carried out in Newcastle upon Tyne. For the Pakistani community, two wards were chosen. They were Elswick and Fenham. The reason for choosing Elswick is that according to the results of the 1986 household survey, 16% of the population comprises ethnic minority households. It is ranked 1 as being the area where the ethnic minority are concentrated.

The reason for choosing Fenham is that although it has only 2% of population comprising ethnic minority households and a ranking of 10 according to the 1986 household survey, at the time of the study it was found that Fenham had over twice the number of children under two years of age with names from the Indian subcontinent compared to Elswick (105:43).

For the Chinese community, they were geographically dispersed all over Newcastle and it was not possible to limit the study to any particular ward.

4.2 Choice of Methodology

The methodology used by various studies on feeding practices of children are prospective studies in which the subjects were selected from various maternity wards and followed up in a longitudinal fashion at various intervals. (7)(9)(10)

In the present study, time was a limiting factor, for a longitudinal study and a cross sectional study was carried out using:

(A) Structured questionnaire

Consisting of 54 items which includes variables on breast feeding patterns and weaning practices, knowledge and attitude of mothers, problems encountered by them during breast feeding and the weaning of their children.

(B) Focus group discussion

Although two focus group discussions were to be carried out in the Pakistani community, only one could be done due to the fact that none of the mothers turned up for the second interview. The main reasons for difficulties in holding focus group interviews were:

(1) There is a high rate of burglaries in Fenham and Elswick. The mothers did not want to leave their homes unattended even in the day time.

(2) Due to cultural constraints very few of the mothers belonged to a social club or women's group and there was no place in which the mothers could meet. The main cultural constraint appeared to be that the male head of the household seemed to be the dominant member of the family. In most Asian and Moslem societies the female members of the families need permission from the male head to participate in any social activity outside the home. Such permission is rarely given.

A discussion outline was used to form a dialogue between 4 mothers with children under 24 months. Although eight mothers were invited for the focus group interview only four mothers turned up. Two mothers did not turn up because one had a burglary the previous night. The discussion topics are typically focused on the group's opinions and experience related to breast feeding and weaning of their infants. The focus group interview stimulated discussion among the mothers which were spontaneous and uninhibited giving qualitative information on the subject concerned.

Unfortunately it was not possible to conduct a focus group discussion in the Chinese community because of the fact that they were geographically dispersed all over the city and they could not be brought together in a group.

(C) Anthropometric measurements

(1) Mid upper arm circumference
(2) Length of the child
(3) Weight of the child

Initially every child was weighed but in the course of the study weighing had to be abandoned because of resistance from the mothers. The reason was that they were afraid the child would cry and they would have to comfort the child instead of getting on with the housework.

4.3 Bias

In the present study the sample has been taken from areas where the minorities are concentrated. This may cause bias. In sampling Asian minorities to assess health and welfare, one solution has been to sample in areas where the minority is known to be concentrated. (16) If a sufficiently large proportion of minorities is concentrated in sufficiently few

districts, it may be justifiable to confine the survey to such districts, accepting the consequent bias. (17) The bias obviously arises if members of the minority who are more dispersed differ in important and relevant ways. (16)

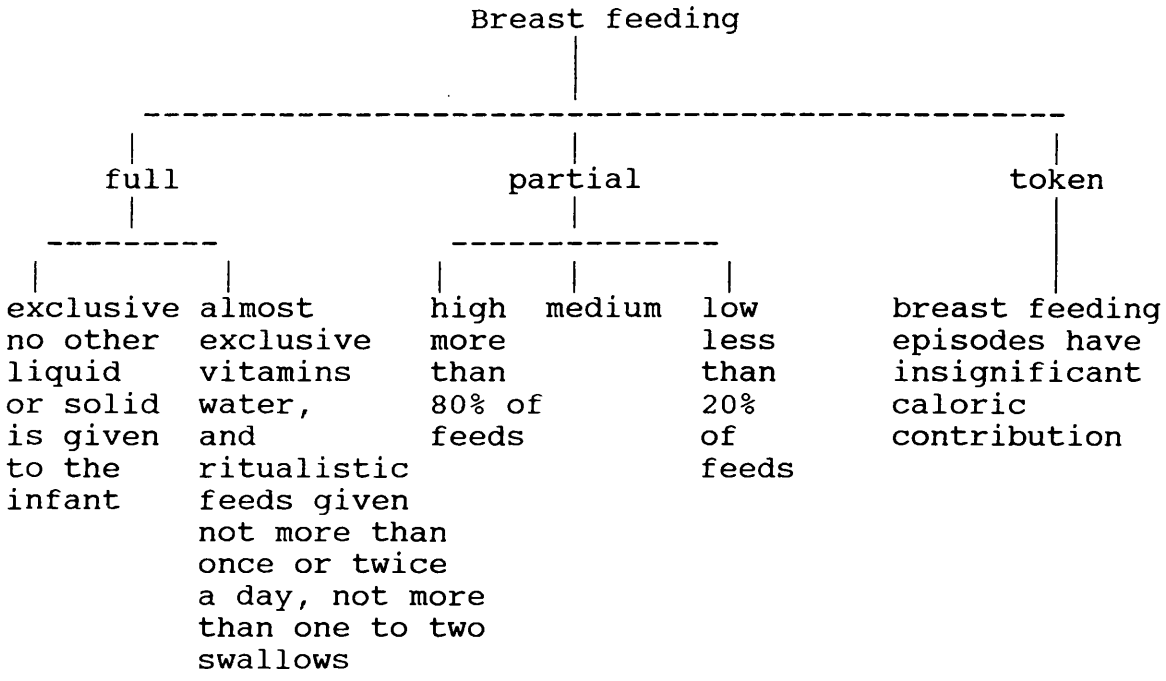
4.4 Pilot study

A pilot study was carried out in the Pakistani community in Moorside, Benwell and Windgroove on the first week of July and the questionnaire was slightly modified as a result. It was also found that some mothers had no knowledge of English at all and few mothers could speak fluent English. It was found that the services of a person well known in the community who would act as an interpreter was absolutely essential.

4.5 Operational Definitions

1. Mother - is defined as a woman with a child less than 24 months of age.

2. Breast feeding - includes exclusive and nearly exclusive breast feeding, meaning no regular supplements of any sort are given.



Source: Adopted from Labbok M.H., and Krasovic K. (1990) Towards consistency in breast feeding definitions. Studies in family planning 21 (4) 226-230.

3. Bottle feeding - is defined as feeding infants with cow's milk or infant formulas from birth.

4. Weaning - is defined as giving complementary foods to the child in addition to giving breast milk, infant formulas or cow's milk which may be in the form of home made foods or commercial weaning foods.

4.6 Sampling Technique

A stratified sampling method was used in which the sample was stratified into two, according to the ethnic minority group viz. the Pakistanis and the Chinese.

As the second stage a snow ball sampling method frequently used in sociological and anthropological research was used for the Pakistani community as random sampling would be costly in time, labour and expense. Snowball sampling method is a method which is used to tap into several informal social networks within the community.

A sample of 67 mothers were taken from the Pakistani community giving a confidence interval of 95% and an accuracy of 10%.

The main reason for using snow ball sampling method was:

(a) There was difficulty in differentiating Pakistani and Bangladeshi names from the sampling frame.

(b) Data from the computerised birth register from the community unit in Newcastle was not collected by country of origin.

(c) Cultural constraints in which there were barriers to women being interviewed by a man made an introduction by a Pakistani lady well known in the community absolutely essential.

(d) Meeting the subjects through a personal introduction made the initial contact with the people much easier and helped to make the atmosphere surrounding the interview much less formal than it might otherwise have been.

The chief advantage of this method of recruitment is the personal introductions that people in a network of relationships can provide to other people in their network.(19) The disadvantage of snowball sampling method is that the sample was not randomly selected and is not representative statistically.

As the second stage of sampling for the Chinese community, a random sampling technique was used in which 27 mothers were selected out of a total of 32 mothers who had children under two years of age in the whole of the city of Newcastle. All the 27 households were visited in the allocated time but only twenty households could be interviewed as no one was at home in the seven households although several visits were made. This is one of the main disadvantages of using a

random sampling method rather than using snow ball sampling in the study of ethnic minorities. The sampling fraction was 62.5%. There is a 95% confidence interval with an accuracy of 10% in the Chinese community.

4.7 Selection of families

A list of all the children born in Newcastle upon Tyne between 1/7/89 to 30/6/91 was obtained from the computerised birth register of the community unit in Newcastle. A total of 7218 children were born during that period out of which 455 (6%) were children with surnames from the Indian sub-continent and 33 (0.46%) were Chinese names. Out of 33 Chinese names two were of the same surname and address indicating that they were siblings. This left a total of 32 mothers in the Chinese community to be interviewed.
With ethnic minorities which have distinctive names, such as those from South Asia and the Chinese, the identification by name has become reliable enough to facilitate random sampling of the minority population as a whole. Asian first and second names can be identified on British listings with a high degree of sensitivity and specificity.(16)(19)(20)

Out of the 455 names from the Indian sub continent 43 were from Elswick and 105 from Fenham. The ratio of Indian, Bangladeshi and Pakistani of the Asian community according

to the ethnic minority survey carried out in five wards in 1990 in Newcastle (unpublished) was 1 : 1.11 :2.74. Therefore the estimated number of Pakistani children under two years of age according to that ratio was 24 for Elswick and 60 for Fenham.

A total of 55 mothers with children under two years in Fenham and 12 in Elswick were interviewed giving a total sample size of 67 in the Pakistani community. The estimated number of Pakistani children under two years in the whole of Newcastle according to the ratio of the ethnic minority survey is 257.

4.8 Sources of Data

1. Interview with structured questionnaire.
2. Focus group discussion.
3. Anthropometric measurements.

4.9 Data Analysis

Data analysis was done using the following statistical analysis programmes: Epi Info, SAS and SPSS.

4.10 Statistical Methods Used

The following statistics were used to measure significance of the results obtained. The details of the statistical methods are in Appendix 3.

Odds ratio

It is the odds among those with the factor under study and among those without the factor.

Yates' continuity correction

Like the normal test, the chi squared test for a 2 * 2 table can be improved by using a continuity correction, often called Yates' continuity correction.

t test

The t test is used for comparing the means from two different samples.

Spearman correlation coefficient

This is a non parametric measure of association between two numeric variables.

Wilcoxon 2 sample test

This is one of the non parametric equivalents of the t test. It does not require assumptions about the shape of the underlying distribution. It tests the hypothesis that two independent samples come from populations having the same distribution.

Kruskal Wallis test

This is one of the non parametric equivalents of one way analysis of variance. It is the extension of the Wilcoxon test.

4.11 Time table of the study

(a) The study protocol was written up in June 1991.

(b) The field survey was carried out in the months of July, and August 1991.

(c) Data analysis was done in the months of September and October 1991.

(d) The final write up of the dissertation was done in November 1991.

(e) The dissertation was submitted on the 29th of November 1991.

5. RESULTS AND DISCUSSION

Part (1) General Background

Table 1.1 Mean age of mothers

The mean age of Pakistani mothers was 27.19 years sd= 4.983
mode = 32

The mean age of Chinese mothers was 29.4 years sd= 5.186
mode = 28

Table 1.2 Education of parents

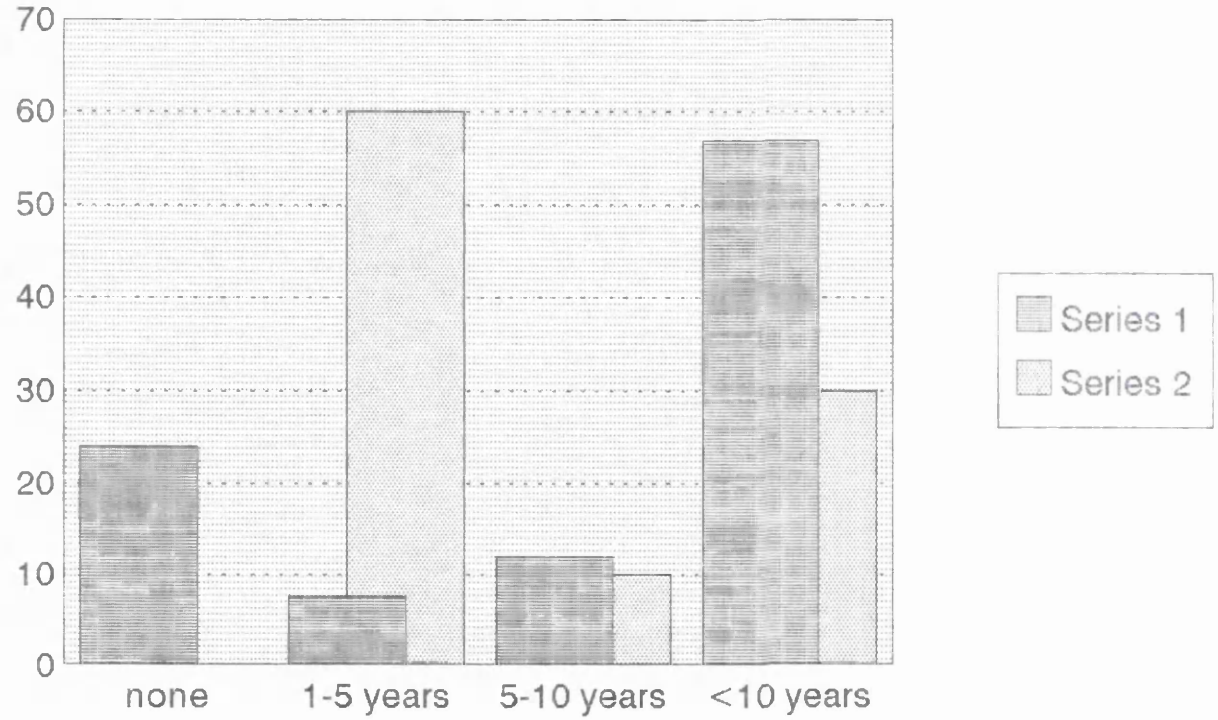
	Pakistani		Chinese	
education	Father	Mother	Father	Mother
none	12 (17.9)%	16 (23.9)%	1 (5)%	0 (0)%
1-5 years	6 (8.9)%	5 (7.5)%	7 (35)%	12 (60)%
5-10 years	5 (7.5)%	8 (11.9)%	5 (25)%	2 (10)%
Over 10 yrs	44 (65.7)%	38 (56.7)%	7 (35)%	6 (30)%

Table 1.2 shows the years of education of the mothers. 23.9% of Pakistani mothers were illiterate compared to 0% in the

Chinese. Illiteracy means that the mothers are not able to read or write English as well as their mother tongue. This also indicates the need to find ways for giving health education to these illiterate mothers and one of the ways may be the use of health education videos in their own language on breast feeding and weaning which could be passed on to the expectant mothers in the community by the community midwives.

Education of mothers (Pakistani and Chinese)

Series 1 = Pakistani Series 2 = Chinese



Percentage of mothers with different levels of education

Table 1.3 Fluency in English

	Pakistani n = 67		Chinese n = 20	
English	Father	Mother	Father	Mother
fluent	33(49.3)%	27 (40.3)%	6 (30)%	6 (30)%
reasonable	11(16.4)%	17 (25.4)%	8 (40)%	4 (20)%
understand	16(23.9)%	11 (16.4)%	3 (15)%	4 (20)%
none	7(10.5)%	12 (17.9)%	3 (15)%	6 (30)%

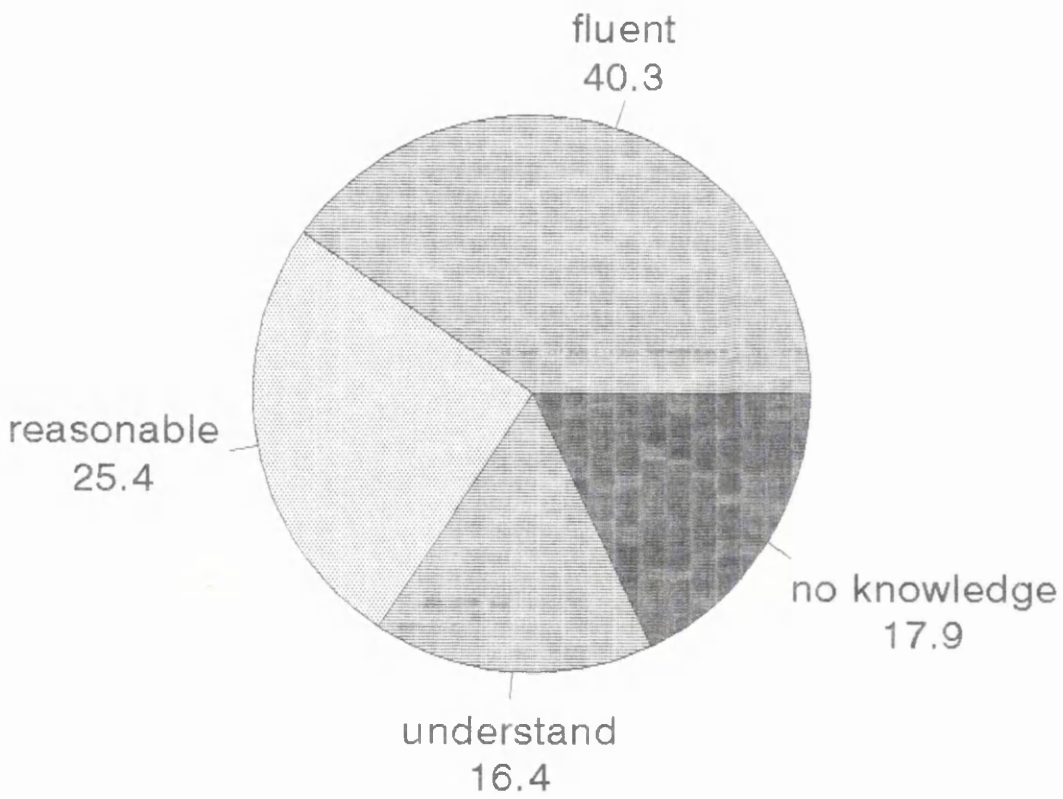
Fluent in English means that the mothers could speak English fluently. Reasonable is that the mothers are able to converse in English although they are not fluent. Understand means that although the mother understands what is spoken to her in English, she is unable to converse. None means that she has no knowledge of English.

40.3 % of the Pakistani mothers and 30 % of the Chinese mothers could speak fluent English. The relatively high percentage of Pakistani mothers who could speak fluent English compared to the Chinese was due to the fact that 26% of Pakistani mothers were born in the UK compared to 10% in the Chinese. There were three English mothers that were married to Chinese husbands with children under two years. Out of these three one was English, one was Irish and the

other was half Chinese and half English (Eurasian). The second reason why Chinese mothers are able to speak less English may be cultural in that the Chinese community is more insular which means that the Chinese community tend to keep to themselves.

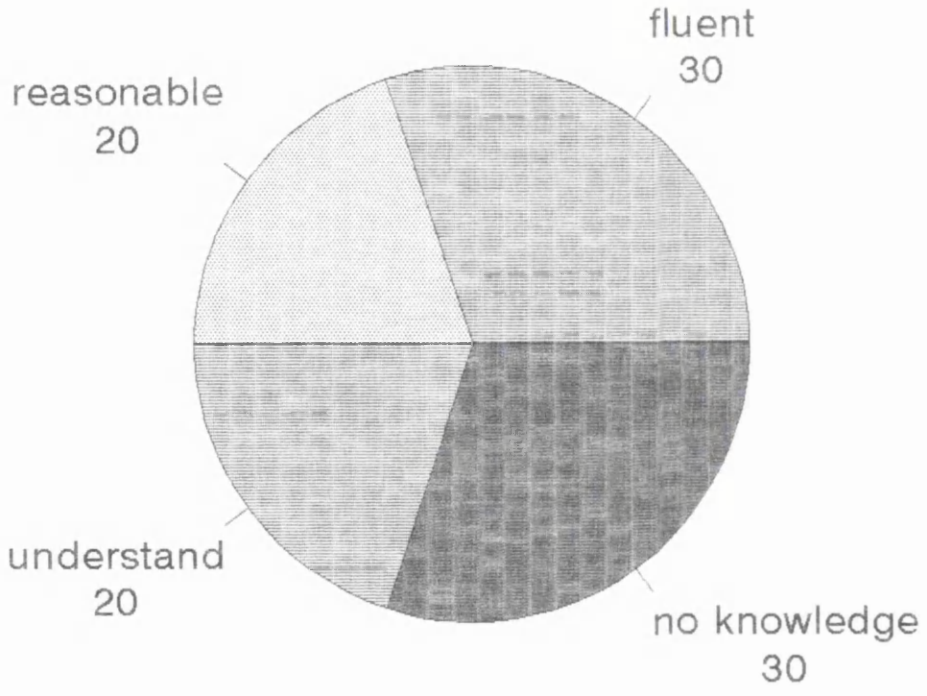
The percentage of Chinese mothers speaking fluent English may be misleading due to the fact that these three English mothers are included. If these three were excluded, then the percentage of Chinese mothers speaking English fluently would be only 17.6% compared to 30%. The percentage of mothers who had no knowledge of English was 17.9% among the Pakistani compared to 30% (35.3% if the English mothers were excluded) in the Chinese. This is important in the fact that health messages given in the antenatal clinic would not be received by these mothers and this indicates the need of link workers.

English language fluency (Pakistani mothers)



Percentage of mothers on fluency of English

English language fluency (Chinese mothers)



Percentage of mothers on fluency of English

Table 1.4 Ability to read and write mother tongue

	Pakistani		Chinese		
Mother tongue	Father	Mother	Father	Mother	
read/write	50 (74.6)%	44(65.7)%	18 (90)%	14 (70)%	82%*
cannot r/w	17 (25.4)%	23(34.3)%	2 (10)%	6 (30)%	18%*

* 3 English mothers excluded

Table 1.4 shows the ability of the mothers to read and write in their mother tongue. It was found that 65.7 % of the Pakistani mothers and 70 % (82 % if the three English mothers were excluded) of the Chinese mothers were able to read or write in their mother tongue. It was found that 61% of the Pakistani mothers born in UK could read and write in their mother tongue. In the Chinese mothers it was found that none of the mothers born in UK could read and write in their mother tongue, but all the Chinese mothers born in China and Hong Kong could read and write in Chinese except one mother who was of Thai origin.

It was also found that 9 (13.4%) of Pakistani mothers could not read and write in their own language as well as having no knowledge of English at all. For the Chinese mothers there was only 1 (5%) mother who could not read and write in Chinese as well as having no knowledge of English at all and

she was of Thai nationality. She was not illiterate due to the fact that she had education in Thailand and could read and write in Thai.

This seems to indicate that if health education leaflets concerning breast feeding and weaning could be given in the vernacular, it would reach a high percentage of mothers especially in the Chinese community.

Table 1.5 Total monthly income of the household

The income of the Chinese families could not be determined because this subject seemed to be a sensitive issue and at the first few initial houses the answers were very vague and this question was dropped as it might possibly offend the mothers.

	Pakistani	
Income	number	percentage
less than 300 pounds	8	11.9%
300 to 400 pounds	17	25.4%
400 to 500 pounds	16	23.9%
500 to 600 pounds	4	6 %
600 to 700 pounds	6	8.9%
over 700 pounds	16	23.9%

61.2% of the Pakistani families had an income of less than £500.

Table 1.6 Employment

		employed	self empl	unemploy	not in UK	student
Pakistani	father	26(38.8)%	8(11.9)%	26(38.8)%	4(6)%	3(4.5)%
	mother	5(7.5)%	4(6) %	58(86.6)%		
Chinese	father	14 (70) %	4(20) %	1(5) %	1(5)%	
	mother	1 (5) %	3(15)% %	16(80) %		

13.5 % of the Pakistani mothers and 20% of the Chinese mothers were either employed or self employed. Most of the Chinese mothers were in the catering business and they were working full time which was one of the main reasons why these mothers do not breast feed.

Table 1.7 Video ownership

Pakistani	54 (80.6)	%
Chinese	19 (95)	%

It was found that 80.6% of the Pakistani families owned videos compared to 95% in the Chinese. This shows the feasibility of using the video as a means of giving health education messages to these mothers which could be passed around in the community.

Table 1.8 Preference of health education material in local language

Pakistani	33 (49.3)	%
Chinese	14 (70)	%

49.3% of Pakistani mothers and 70% (82.4% if the three English mothers were excluded) of Chinese mothers preferred health education leaflets in their local language.

Part (2) Profile of breast feeding mothers and non breast feeding mothers (Pakistani and Chinese mothers combined)

Table 2.1 On English language fluency and breast feeding

	Can converse	Unable to converse	Total
Breast feeding	29	9	38
Not breast feeding	25	24	49
Total	54	33	87

Odds ratio = 3.09 (1.11 <OR< 8.80)
Cornfield 95% confidence limits for OR

	Chi-Squares	P-Values
Yates corrected	4.79	0.02859453

Mothers who were able to converse in English were three times more likely to breast feed than those mothers who were not able to converse in English.

Table 2.2 Age of mother and breast feeding

	Below 25 years	above 25 years	Total
Breast feeding	18	20	38
Not breast feeding	12	37	49
Total	30	57	87

Odds ratio = 2.78 (1.02 <OR < 7.66)
Cornfield 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	4.00	0.04556336

If the cut off age was taken as 25 years, mothers below that age are more likely to breast feed than mothers above the age of 25.

Table 2.3 Employment of father and breast feeding

	Unemployed	Employed	Total
Breast feeding	21	17	38
Not breast feeding	14	35	49
Total	35	52	87

Odds ratio = 3.09 (1.16 <OR < 8.33)
Cornfield 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	5.28	0.02157434

In this table it was found that children of fathers who were unemployed are three times more likely to be breast fed than children whose fathers were employed.

Table 2.4 Employment of mother and breast feeding

	Unemployed	Employed	Total
Breast feeding	37	1	38
Not breast feeding	37	12	49
total	74	13	87

Odds ratio = 12 (1.48 <OR < 259.54)
Cornfield 95% confidence limits for OR

	Chi-Squares	P-Values
Yates corrected	6.42	0.01129941

Working mothers are twelve times less likely to breast feed than mothers who are not working.

Table 2.5 Social Class and breast feeding

	Social class 4-5	Social class 2-3	Total
breast feeding	30	5	35
Not breast feeding	37	12	49
Total	67	17	84

Odds ratio = 1.95 (0.55 <OR< 7.21)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	0.76	0.38311979

Mothers of low social classes are twice more likely to breast feed compared to mothers of higher social classes.

Table 2.6 Total monthly income and breast feeding

	less than £ 700	above £ 700	Total
breast feeding	29	3	32
Not breast feeding	22	13	35
Total	51	16	67

Odds ratio = 5.71 (1.28 <OR< 29.03)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	7.09	0.00774862

Mothers with an income less than £ 700 are 6 times more likely to breast feed compared to mothers with an income of more than £ 700.

Table 2.7 Education of mother and breast feeding

	Less than 10 yrs	above 10 yrs	Total
breast feeding	23	15	38
Not breast feeding	28	21	49
Total	51	36	87

Odds ratio = 1.15 (0.44 <OR< 2.98)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	0.01	0.92163753

There is no difference between mothers who were educated less than 10 years and more than 10 years ago and their choice of breast or bottle feeding.

2.8 House ownership and breast feeding

	not owned	owned	Total
breast feeding	20	18	38
Not breast feeding	14	35	49
Total	34	53	87

Odds ratio = 2.78 (1.04 <OR< 7.47)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	4.24	0.03942408

Concerning type of house and breast feeding, mothers living in houses which are not owned by them are likely to breast feed three times more than mothers who live in houses that are owned by them.

Table 2.9 Advice given on breast feeding at Antenatal clinic as stated by mothers and breast feeding

	Advice not given	Advice given	Total
breast feeding	12	25	37
Not breast feeding	7	42	49
Total	19	67	86

Odds ratio = 2.88 (0.90 <OR< 9.46)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	3.05	0.08084035

Mothers who are not given advice on breast feeding in the antenatal clinic are likely to breast feed three times more compared to those who were given advice.

Table 2.10 Advice given on breast feeding at Antenatal clinic in own language as stated by mothers and breast feeding

	Advice given own language	Advice not given own language	Total
breast feeding	6	20	26
Not breast feeding	1	40	41
Total	7	60	67

Odds ratio = 12 (1.26 <OR< 283.27)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	5.21	0.02252120

Fisher exact results recommended
Fisher 1 tailed P value = 0.0116107
Fisher 2 tailed P value = 0.0116107

Mothers who were given advice in their own language at the antenatal clinic are likely to breast feed twelve times more than mothers who were not given advice in their own language at the antenatal clinic.

Table 2.11 Breast feeding approved by husband as stated by the mothers and breast feeding

	Approved by husband	Not Approved by husband	Total
breast feeding	34	4	38
Not breast feeding	38	11	49
Total	72	15	87

Odds ratio = 2.46 (0.64 <OR< 10.22)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	1.38	0.240364467

In this table it was found that mothers are two times more likely to breast feed if there is approval from their husband.

Table 2.12 Language difficulties encountered by mothers with health professionals and breast feeding.

	No Language difficulties	Language difficulties	Total
breast feeding	26	12	38
Not breast feeding	21	28	49
Total	47	40	87

Odds ratio = 2.89 (1.09 <OR< 7.77)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	4.65	0.03107273

Mothers with no language difficulties are likely to breast feed three times more than those mothers with language difficulties with the health professionals.

Table 2.13 Age of weaning and breast feeding

	Below 4 months	4 months and above	Total
breast feeding	22	15	37
Not breast feeding	26	19	45
Total	48	34	82

Odds ratio = 1.07 (0.40 <OR< 2.85)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	0.01	0.94306683

There is no difference in the weaning age of the children who were breast fed and those children who were not breast fed.

Table 2.14 Place of birth of the mother and breast feeding

	United Kingdom	Others(Pakistan Hong Kong,China & Thailand)	Total
breast feeding	12	26	38
Not breast feeding	11	38	49
Total	23	64	87

Odds ratio = 1.59 (0.55 <OR< 4.63)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	0.51	0.47690318

It was found that mothers born in the United Kingdom are likely to breast feed 1.5 times more than mothers who were born outside the United Kingdom.

Table 2.15 Sex of child and breast feeding

	Male	Female	Total
breast feeding	21	17	38
Not breast feeding	22	27	49
Total	43	44	87

Odds ratio = 1.52 (0.59 <OR< 3.89)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	0.55	0.45752145

It was found that male children were slightly more likely to be breast fed than female children.

Table 2.16 Advice on breast feeding by the health professionals and relatives

	Health Professionals	Relatives Friends	Total
breast feeding	32	6	38
Not breast feeding	29	18	47
Total	61	24	85

Odds ratio = 3.31 (1.05 <OR< 10.89)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	4.2	0.0403906

It was found that mothers who were given advice to breast feed by the health professionals are likely to breast feed more than those mothers who receive such advice from friends and relatives.

Table 2.17 Language difficulties encountered by mothers with health professionals and advice on breast feeding given at the antenatal clinic

	Advice given	Advice not given	Total
Lang difficulty	33	6	39
No lang difficulty	34	13	47
Total	67	19	86

Odds ratio = 2.10 (0.64 <OR< 7.12)
Cornfields 95% confidence limit for OR

	Chi-Squares	P-Values
Yates corrected	1.22	0.26920049

Mothers who stated that they had language difficulties with the health professional are likely to be given advice on breast feeding 2 times more than those mothers without language difficulties.

The above findings for odds ratio and chi square are summarised with further statistical analysis in the following table.

Table 2.18 Summary of the profile of breast feeding mothers with statistical analysis

Findings	Odds Ratio	Chi Sq P-val	Spearman Correlation Coefficient	Wilcoxon 2-Sample Test(Prob)
1-English language fluency and breast feeding	3.09	0.02	0.301	0.0054 *
2-Age of mother and breast feeding	2.78	0.05	0.278	0.0100 *
3-Employment of father and breast feeding	3.09	0.02	-0.179	0.0987
4-Employment of mother and breast feeding	12	0.01	-0.28	0.0059 *
5-Social class and breast feeding	1.95	0.38	0.082	0.4517
6-Total monthly income and breast feeding	5.71	0.01	0.085	0.4335
7-Education of mother and breast feeding	1.15	0.92	-0.121	0.2649
8-House ownership and breast feeding	2.78	0.04	-0.214	0.0481 *
9-Advice on breast feeding at antenatal clinic and breast feeding	2.88	0.08	-0.177	0.1020
10-Advice at antenatal clinic in own language and breast feeding	12	0.02	0.290	0.0073 *
11-Breast feeding approved by husband and breast feeding	2.46	0.24	0.167	0.1225
12-Language difficulties with health professionals and breast feeding	2.89	0.03	-0.254	0.0186 *

* = statistically significant

On the above table it was found that mothers who were able to converse in English were more likely to breast feed than those mothers who were unable to converse in English. It was also found that mothers who were given advice to breast feed in their own language in the antenatal clinic are more likely to breast feed than those mothers who were not given advice in their own language. This is also supported by the fact that mothers with no language difficulties with the health professionals are more likely to breast feed than mothers with language difficulties in communicating with the health professionals. Therefore language difficulty is the major problem among the mothers of the Pakistani as well as the Chinese communities which affects the rate of breast feeding in these communities.

With regard to language difficulties with health professionals, there is a negative value in Spearman correlation coefficient indicating that mothers without language difficulties with the health professionals are more likely to breast feed than those mothers with language difficulties.

Employment of mother is another major factor that contributes to the low rate of breast feeding as mothers who are employed are less likely to breast feed. Fortunately

the number of mothers who are employed in the Pakistani as well as the Chinese community is not very high. For the Pakistani community it was 13.5% and for the Chinese community it was 20%.

Mothers who are not given advice on breast feeding in the antenatal clinic are more likely to breast feed compared to the mothers who were given advice. This may be due to the fact that at the antenatal clinic, at the first booking visit, the mother is asked if she wants to bottle feed or breast feed. If she is unsure, she is given 5-10 minutes of encouragement and discussion on breast feeding according to the statement of the health professionals. Perhaps the statistics reflect the fact that the mothers who received advice were those who were most unsure of whether they would breast or bottle feed, and in the end they decided to bottle feed.

Part (3) Differences in breast feeding patterns between the Pakistani and Chinese communities

Table 3.1 Choice of breast feeding in hospital

	Pakistani	Chinese
Breast	32 (47.8) %	6 (30) %
Bottle	35 (52.2) %	14 (70) %

In the maternity unit, options were given to all the mothers on their choice of feeding the child. No advice was given to breast feed the child.

All the mothers in the study were offered a choice on feeding their child in the hospital. 47.8% of the Pakistani mothers and 30% of the Chinese mothers chose to breast feed their children in hospital after delivery. If more advice, information and encouragement could be given to all the mothers to breast feed their children before term, by the health professionals either in the antenatal clinic or in the community, there might be an increase in the rate as well as the duration of breast feeding.

Table 3.2 Type and duration of breast feeding

	Pakistani		Chinese	
duration	exclusive	almost exc	exclusive	almost exc
less than 2 wk		6 (9) %		
2 - 4 weeks		6 (9) %		
4 - 6 weeks		2 (3) %		
6 - 8 weeks	1 (1.5)%	4 (6) %		1 (5) %
8 -10 weeks	1 (1.5)%	9 (13.4)%		1 (5) %
10 -12 weeks		2 (3) %	1 (5)%	2 (10) %
over 12 weeks				
still BF		1 (1.5)%		1 (5) %

Table 3.2 shows the type and duration of breast feeding among the Pakistani and the Chinese mothers. Breast feeding may be either exclusive or almost exclusive. Exclusive breast feeding means that no other liquids or solids are given to the infant besides breast milk whereas almost exclusive breast feeding means that water, fruit juice and other feeds are given not more than once or twice a day, not more than one or two swallows. It was found that 19.4% of the Pakistani mothers breast fed their children for more than two months compared to 25% in the Chinese. Only

3% of the Pakistani mothers exclusively breast fed their children compared to 5% in the Chinese. All mothers, both Pakistani and Chinese, who breast fed gave colostrum compared to the Bangladeshi community where very few mothers gave colostrum. (21)

54 (80.6%) of mothers in the Pakistani community stated that they were given advice at the antenatal clinic to breast feed compared to 13 (65%) in the Chinese community. The low rate in the Chinese community may be due to the fact that the Chinese mothers have more language difficulties in communicating with the health professionals.

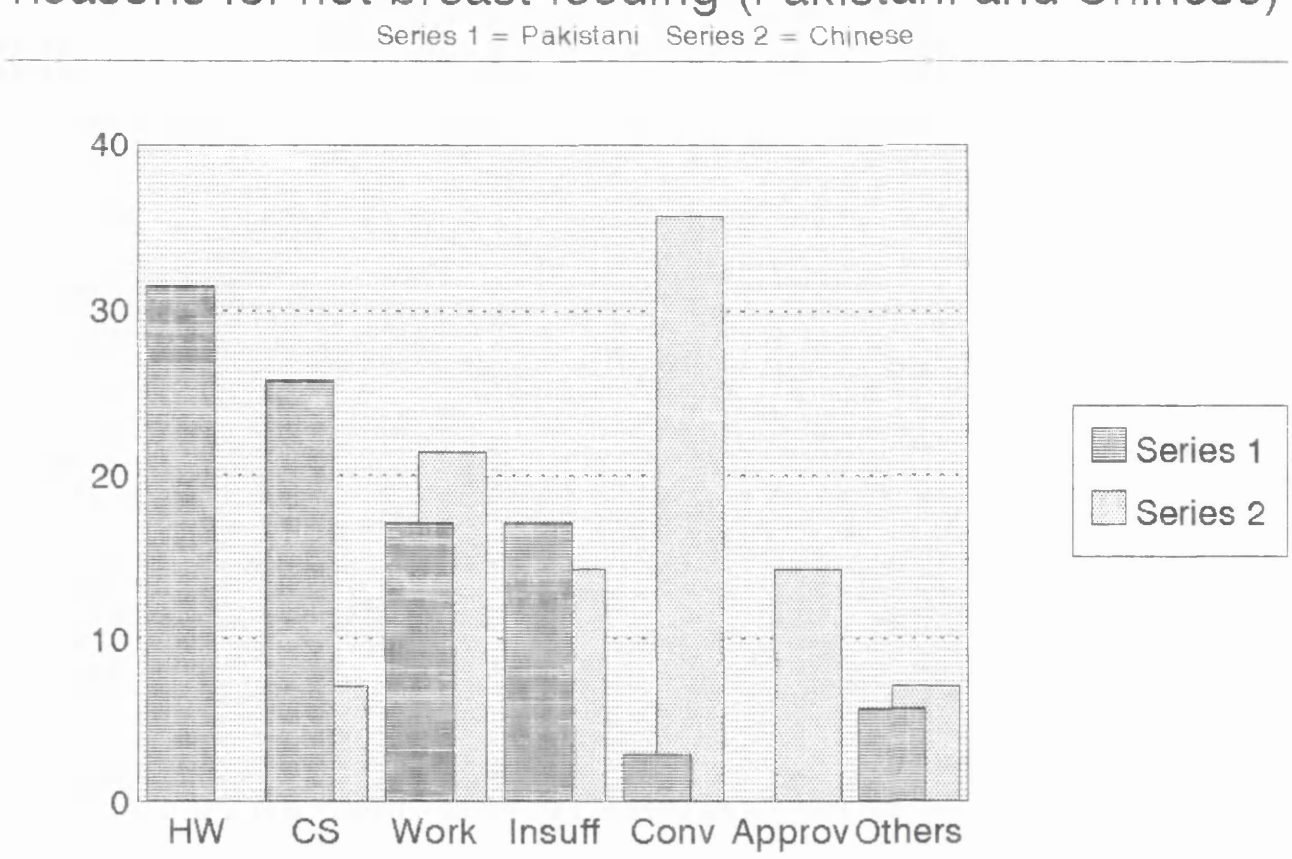
Table 3.3 Reasons for not breast feeding

	Pakistani	Chinese
No time(too much housework)	11 (31.4) %	0
Mother sick (Caesarean)	9 (25.7) %	1 (7.1) %
No time (working)	6 (17.1) %	3 (21.4) %
Insufficient milk	6 (17.1) %	2 (14.3) %
Artificial milk convenient	1 (2.9) %	5 (35.7) %
Not approved in community	0	2 (14.3) %
Others	2 (5.7) %	1 (7.1) %

The main reason stated by the mothers for not breast feeding in the Pakistani community is that there is no time due to too much housework. This came up in more detail in the focus group interview where the mothers mentioned that the families were nuclear families in the UK compared to Pakistan where the families were extended families. In UK the Pakistani mothers could not cope with all the housework and also breast feed their child in the setting of the nuclear family in UK, whereas in Pakistan all the other members of the extended family shared the housework while the mothers were allowed to breast feed their babies. The second main reason among the Pakistani mothers not breast feeding their children is caesarean section. These mothers in a way tend to think that caesarean section is a contraindication to breast feeding. If these mothers could be given education and encouragement on the fact that caesarean section is not a contraindication to breast feeding, then most of these mothers would be able to establish and maintain breast feeding especially those mothers who undergo elective caesarean section.

The main reason stated by the mothers for not breast feeding in the Chinese community is that artificial milk is more convenient. One of the reasons also for the mothers not breast feeding is that breast feeding is not approved in the

Chinese community. If this concept could be changed among the expectant mothers of the Chinese community, then there might be an increase in the rate of breast feeding in the Chinese community.



Percentage of mothers with different reasons for not breast feeding

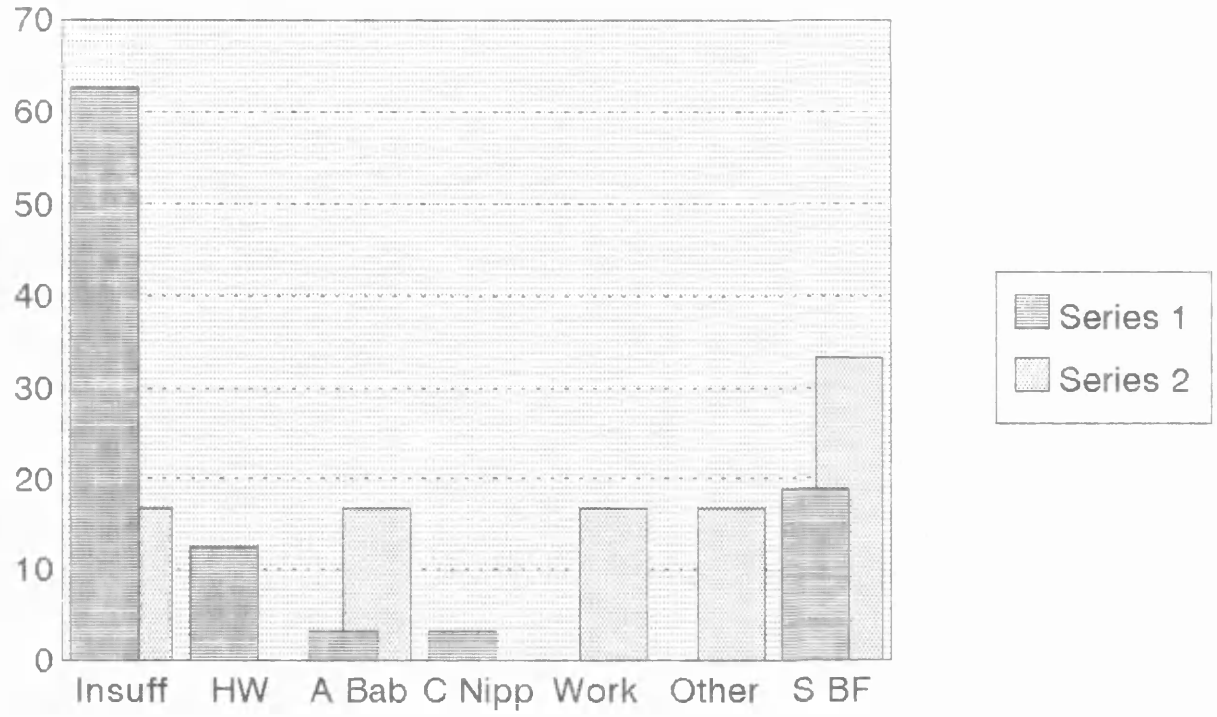
Table 3.4 Reasons for discontinuation of breast feeding

	Pakistani	Chinese
Insufficient milk	20 (62.5) %	1 (16.7) %
No time(too much housework)	4 (12.5) %	
Still breast feeding	6 (18.8) %	2 (33.3) %
Another baby	1 (3.1) %	1 (16.7) %
Painful cracked nipples	1 (3.1) %	
No time working		1 (16.7) %
Others		1 (16.7) %

The main reason mentioned for discontinuation of breast feeding in the Pakistani as well as the Chinese community is insufficient milk. This also came up in the focus group discussion in which the mothers sought advice from the health workers on insufficient milk and they were given advice to "top up" the feeds by using infant formulas which ultimately led to the discontinuation of breast feeding. They also compared their experiences in Pakistan where the mother was given encouragement and advice to persevere and to continue breast feeding instead of supplementing with the bottle. If more counselling and support could be given to the mothers instead of advising them to use infant formulas, there would be fewer mothers who would discontinue breast feeding.

Reasons for discontinuation of breast feeding

Series 1 = Pakistani Series 2 = Chinese



Percentage of mothers with different reasons for discontinuation of breast feeding

Table 3.5 Influence of husband on breast feeding

	Pakistani	Chinese
approve	55 (82.1) %	17 (85) %
not approve	10 (14.9) %	1 (5) %
don't know	2 (3) %	2 (10) %

Only 14.9% of the Pakistani husbands and 5% of the Chinese husbands disapprove of breast feeding.

Table 3.6 Mean age of stopping breast feeding

Pakistanis	2.58 months with Std Dev of 3.45 months (n=31)
	Median 1.5 Mode 2 months
Chinese	3.8 months with Std Dev of 3.42 months (n=5)
	Median 3.0 Mode cannot be determined because n=5 and all have different values

Although the rate of breast feeding is low in the Chinese mothers compared to the Pakistani mothers, they tend to breast feed longer.

Table 3.7 Marital status and breast feeding among Pakistani mothers

	Stays with hus	widowed/Divorce	Separated
Breast feed	26	0	6
Not BF	31	1	3

Among the Pakistani mothers 57 were living with their husbands while 1 was divorced and 9 separated from their husbands. Among the mothers who are living with their husbands 45.6% breast feed compared to 66.7% among the mothers who are separated. This may be in part due to economic reasons where single mothers may not be able to afford infant formulas.

In the Chinese community all the mothers are living together with their husbands.

Table 3.8 Total monthly income and breast feeding the child (Pakistani)

	Breast feed	not breast feed
less than 300 £	7	1
300 - 400 £	9	8
400 - 500 £	7	9
500 - 600 £	2	2
600 - 700 £	4	2
Over 700 £	3	13

Concerning breast feeding and total monthly income in the Pakistani community, 87.5% of mothers with an income of less than £300 breast feed compared to 18.76% of mothers with an income of more than £700. This may be due to the fact that mothers with more household income are able to afford infant formulas compared to the mothers with low household income.

Information about Household income could not be obtained from the Chinese community.

Table 3.9 Mothers who breast feed by ward of residence (Pakistani)

	Breast feed	not breast feed
Elswick	9 (60%)	6 (40%)
Fenham	23 (44.2%)	29 (55.8%)

This table shows the difference breast feeding rates in Elswick and Fenham in the Pakistani community.

Table 3.10 Social class and breast feeding

	Pakistani		Chinese	
	Breast feed	Not BF	Breast feed	Not BF
Social Class2			2	1
Social Class3	2	10	1	1
Social Class4	27	21	3	11
Social Class5		4	0	1

In the Pakistani community only 2 mothers of social class 3 breast fed compared to 27 in social class 4. Three Pakistani families could not be classified into any social class because the husbands were students.

In the Chinese community it was the opposite of the Pakistani community in which 3 mothers of social class 2-3 breast fed compared to 3 mothers in social class 4-5.

Table 3.11 Advice given to mothers on breast feeding in the antenatal clinic and mothers who actually breast feed

	Pakistani		Chinese	
	B Feed	not BF	B Feed	not BF
Advice to BF given at AN clinic	22	32	3	10
Advice to BF not given at AN clinic	9	3	3	4

It was found that only 40.7 % of mothers in the Pakistani community who stated that they were given advice on breast feeding did actually breast feed compared to 75 % of mothers who stated that they were not given advice at the antenatal clinic. In the Chinese community also the findings were similar in which only 23.1 % of mothers who were given advice to breast feed in the antenatal clinic actually breast fed compared to 42.9 % of mothers who were given no

advice to breast feed.

This seems to indicate that mothers who are not given advice on breast feeding at the antenatal clinic tend to have better breast feeding rates than those mothers who were given advice at the antenatal clinics. This also depends on the fact of how much of the advice was understood. Three main factors are involved. The first factor is the person giving the advice, the second is the content of the advice and the last factor is the way in which it was given.

Part (4) General profiles of mothers who wean early and those who wean late

Table 4.1 English language fluency and weaning

	Able to converse well in English	unable to converse well in English
Wean less than 4 mon	32	16
Wean 4 mon & above	20	14

Odds ratio =1.40 (0.51 <OR< 3.84)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.51
Exact upper 95% confidence limits = 3.82

	Chi squares	P-values
Yates corrected	0.24	0.6214854

There is no difference in mothers who are able to converse in English and those who cannot in relation to the age of weaning the child.

Table 4.2 Age of mother and weaning

	Below 25 years	25 years & above
Wean less than 4 mon	16	26
Wean 4 mon & above	10	30

Odds ratio =1.85 (0.65 <OR< 5.32)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.65
Exact upper 95% confidence limits = 5.38

	Chi squares	P-values
Yates corrected	1.07	0.30001866

Mothers below the age of 25 years are likely to wean their children below the age of 4 months 2 times more than those mothers who are 25 years and above.

Table 4.3 Employment of father and weaning

	Father unemployed	Father employed
Wean less than 4 mon	20	27
Wean 4 mon & above	13	20

Odds ratio =1.14 (0.42 <OR< 3.12)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.42
Exact upper 95% confidence limits = 3.13

	Chi squares	P-values
Yates corrected	0.00	0.9586076

There is no difference in the age of weaning among the children whose fathers are employed and unemployed.

Table 4.4 Employment of mother and weaning

	Mother employed	Mother unemployed
Wean less than 4 mon	7	29
Wean 4 mon & above	5	41

Odds ratio =1.98 (0.50 <OR< 8.12)*
Cornfield 95% confidence limit for OR
Cornfield not accurate. Exact limits preferred.
Exact lower 95% confidence limits = 0.48
Exact upper 95% confidence limits = 8.67

	Chi squares	P-values
Yates corrected	0.60	0.4380689

Mothers who are employed are more likely to wean their children below the age of 4 months 2 times more than those mothers who are unemployed.

Table 4.5 Social class and weaning

	Social class 2-3	Social class 4-5
Wean less than 4 mon	30	16
Wean 4 mon & above	20	14

Odds ratio = 1.31 (0.48 <OR< 3.62)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.48
Exact upper 95% confidence limits = 3.60

	Chi squares	P-values
Yates corrected	0.12	0.7260578

There is no difference between social class and age of weaning.

Table 4.6 Total monthly income and weaning (Pakistani)

	Above £ 700	Less than £ 700
Wean less than 4 mon	10	26
Wean 4 mon & above	5	22

Odds ratio =1.69 (0.44 <OR< 6.79)*
Cornfield 95% confidence limit for OR
Cornfield not accurate. Exact limits preferred.
Exact lower 95% confidence limits = 0.44
Exact upper 95% confidence limits = 7.25

	Chi squares	P-values
Yates corrected	0.31	0.5788651

Mothers with a household income of more than £ 700 are more likely to wean their children early compared to those mothers with an income of less than £ 700.

Table 4.7 Education of mothers and weaning

	more than 10 years	less than 10 years
Wean less than 4 mon	29	19
Wean 4 mon & above	13	21

Odds ratio =2.47 (0.91 <OR< 6.74)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.92
Exact upper 95% confidence limits = 6.72

	Chi squares	P-values
Yates corrected	3.08	0.0791763

Mothers with an education of more than 10 years are 2 1/2 times more likely to wean their children below the age of 4 months, compared to mothers with an education of less than 10 years.

Table 4.8 House ownership and weaning

	not owned	owned
Wean less than 4 mon	20	28
Wean 4 mon & above	11	23

Odds ratio =1.49 (0.54 <OR< 4.15)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.54
Exact upper 95% confidence limits = 4.19

	Chi squares	P-values
Yates corrected	0.39	0.5314761

It was found that mothers who were living in houses not owned by them are more likely to wean their children below the age of 4 months compared to those mothers living in houses owned by them.

Table 4.9 Statement of mothers that advice on weaning was given at the child clinic and weaning

	Advice not given	Advice given
Wean less than 4 mon	15	32
Wean 4 mon & above	11	24

Odds ratio =1.02 (0.36 <OR< 2.91)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.36
Exact upper 95% confidence limits = 2.94

	Chi squares	P-values
Yates corrected	0.04	0.8468894

There is no difference between mothers who stated that they had advice and those who did not receive such advice.

Table 4.10 Statement of mothers that advice on weaning was given at the child clinic in own language and weaning

	Advice given in own language	Advice not given in own language
Wean less than 4 mon	6	26
Wean 4 mon & above	3	21

Odds ratio = 1.62 (0.30 <OR< 9.42)*
Cornfield 95% confidence limit for OR
Cornfield not accurate. Exact limits preferred.
Exact lower 95% confidence limits = 0.30
Exact upper 95% confidence limits = 11.09

	Chi squares	P-values
Yates corrected	0.07	0.7928689

Fisher exact results recommended
Fisher exact : 1 tailed p-value = 0.4017436
2 tailed p-value = 0.7175514

It was found that mothers who were given advice on weaning in their own language are more likely to wean their children before the age of 4 months compared to those mothers who were given no advice in their own language.

Table 4.11 Language difficulties encountered by mothers with health professionals and weaning

	No language difficulties	Language difficulties
Wean less than 4 mon	29	19
Wean 4 mon & above	16	18

Odds ratio = 1.72 (0.64 <OR< 4.6)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.64
Exact upper 95% confidence limits = 4.58

	Chi squares	P-values
Yates corrected	0.95	0.3308872

Mothers with no language difficulties with the health professionals are more likely to wean their child at less than 4 months compared to mothers with language difficulties.

Table 4.12 Place of birth of mother and weaning

	Others (Pakistan, Hong Kong, China & Thailand)	United Kingdom
Wean less than 4 mon	36	12
Wean 4 mon & above	23	11

Odds ratio = 1.43 (0.49 <OR< 4.23)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.48
Exact upper 95% confidence limits = 4.22

	Chi squares	P-values
Yates corrected	0.23	0.63072195

There is not much difference in the age of weaning between mothers born in other countries compared to mothers who were born in the United Kingdom.

Table 4.13 Sex of the child and weaning

	female	Male
Wean less than 4 mon	26	22
Wean 4 mon & above	16	18

Odds ratio = 1.33 (0.50 <OR< 3.53)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.50
Exact upper 95% confidence limits = 3.52

	Chi squares	P-values
Yates corrected	0.17	0.6816885

There is no difference in the age of weaning and sex of the child.

Table 4.14 Demonstration and advice given on weaning and the age of weaning

	Advice & demon	No advice & demon
Wean less than 4 mon	14	34
Wean 4 mon & above	4	30

Odds ratio = 3.09 (0.82 <OR< 12.58)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.84
Exact upper 95% confidence limits = 14.12

	Chi squares	P-values
Yates corrected	2.58	0.1085330

Mothers who were given advice and demonstration on weaning are more likely to wean at the age of less than 4 months compared to mothers who were given no advice and demonstration.

Table 4.15 Language difficulties encountered by the mothers with health professionals and demonstrations and advice on weaning

	Demons & advice	No demons & advice
Lang difficulties	10	27
No lang difficulties	8	37

Odds ratio = 1.71 (0.53 <OR< 5.61)
Cornfield 95% confidence limit for OR
Exact lower 95% confidence limits = 0.53
Exact upper 95% confidence limits = 5.69

	Chi squares	P-values
Yates corrected	0.55	0.46000249

Mothers who had language difficulties with the health professional were given more demonstrations and advice on weaning compared to those mothers without language difficulties.

The above findings for odds ratio and Chi square are summarised with further statistical analysis in the following table.

Table 4.16 Summary of profile of mothers who wean early and late with statistical analysis

Finding	Odds ratio	Chi Sq P-Value	Spearman Correlation Coefficient	Kruskal Wallis test (Chi-square approximation) Prob>CHISQ
1-On English language fluency and weaning	1.4	0.62	0.062	0.1409
2-Age of mother and weaning	1.85	0.30	-0.039	0.3453
3-Employment of father and weaning	1.14	0.95	-0.010	0.1592
4-Employment of mother and weaning	1.98	0.43	0.014	0.2175
5-Social class and weaning	1.31	0.72	0.110	0.3544
6-Total monthly income and weaning	1.69	0.57	0.122	0.1081
7-Education of mother and weaning	2.47	0.08	-0.184	0.5838
8-House ownership and weaning	1.49	0.53	-0.120	0.6025
9-Advice at child clinic and weaning	1.02	0.84	0.106	0.1093
10-Advice in own language and weaning	1.62	0.79	0.200	0.0193 *
11-Language difficulties and weaning	1.72	0.33	-0.094	0.3713

* Kruskal Wallis test statistically significant

In general it was found that there is not much difference in the characteristics of mothers who wean early and those mothers who wean late. It was found that mothers who have an education of more than 10 years tend to wean their children at less than 4 months compared to mothers with an education of less than 10 years. The P-value for Chi square is 0.08 and is not statistically significant.

Table 4.17 Summary statistics of maternal characteristics amongst Pakistani women who wean early and late

Findings	Odds ratio	Chi Sq P- Value	Kruskal Wallis test (Chi-square approximation) Prob>CHISQ)
1-On English language fluency and weaning	1.35	0.76	0.4350
2-Age of mother and weaning	2.29	0.19	0.3022
3-Employment of father and weaning	1.08	0.91	0.4271
4-Employment of mother and weaning	2.25	0.44	0.0749
5-Social class and weaning	1.89	0.42	0.1166
6-Total monthly income and weaning	1.69	0.58	0.1081
7-Education of mother and weaning	2.73	0.09	0.0916
8-House ownership and weaning	1.18	0.95	0.7808
9-Advice at child clinic and weaning	1.26	0.87	0.3331
10-Advice in own language and weaning	1.75	0.75	0.7967
11-Language difficulties and weaning	1.43	0.66	0.6988

Odds ratio in the above table indicates the trend among mothers who wean early and late.

Table 4.18 Summary statistics of maternal characteristics amongst Chinese women who wean early and late

Findings	Odds ratio	Chi Sq P- Value	Kruskal Wallis test (Chi-square approximation) Prob>CHISQ
1-On English language fluency and weaning	1.75	0.96	0.2548
2-Age of mother and weaning	1.11	0.56	0.2666
3-Employment of father and weaning	1.33	0.67	0.5276
4-Employment of mother and weaning	1.11	0.56	0.7878
5-Social class and weaning	1.12	0.55	0.8774
6-Total monthly income and weaning	-	-	- *
7-Education of mother and weaning	2.25	0.95	0.6533
8-House ownership and weaning	3.43	0.63	0.8023
9-Advice at child clinic and weaning	2.25	0.92	0.3999
10-Advice in own language and weaning	-	-	- **
11-Language difficulties and weaning	2.4	0.74	0.2823

* Total monthly income could not be obtained in the Chinese community

** No advice was given to the Chinese in their own language

Odds ratios in the above table are indication of the trends amongst Chinese women who wean early and late.

Part(5) Weaning Practices

Table 5.1 Mean age in months of introducing semisolids (weaning foods) and solids (food from the family pot)

	Semi-solids		Solids	
	mean	std dev	mean	std dev
Pakistanis	3.79	1.4	7.89	3.16
Chinese	3.67	1.56	8.2	3.17

There is not much difference in the ages of introducing semisolids (weaning foods) and solids (food from the family pot) in the Pakistani and the Chinese communities.

Table 5.2 Most commonly used weaning preparations

	Milupa weaning foods	Cow & Gate weaning foods	Heinz weaning foods	home prep weaning foods	other weaning foods
Pakistanis	45 (71)%	12 (19)%	6(10)%		
Chinese	6 (35)%	3 (18)%		7(41)%	1(6)%

n=63 Pakistani
n=17 Chinese

Most of the Pakistani mothers tend to use mainly commercial weaning foods compared to the Chinese who use mainly home made weaning foods containing a variety of foods. The main disadvantage of using commercial weaning preparations in the Pakistani community are that the meat should be halal and the children are given commercial food containing no meat. The commercial weaning foods that are mainly given to the children in the Pakistani community are rice pudding, egg custard, baby rice, rusks and vegetable infant dinners.

The presence of commercial halal baby foods would be a great advantage to these children and at the moment market research on the feasibility of production of commercial halal baby food is being conducted.

Part (6) Profile of mothers who introduce solids food early and mothers who introduce solids late

Introduction of solids means introducing food from the family pot to the child.

Table 6.1 English language fluency and age of introduction of solid foods

	Unable to converse well in English	Able to converse well in English
solids 6 mon & below	13	19
solids above 6 mon	13	24

Odds ratio = 1.26 (0.43 <OR< 3.76)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	0.05	0.8257113

There is no difference in the age of introduction of solid foods between mothers who are able to converse in English and those who are unable to converse in English.

Table 6.2 Age of mother and age of introduction of solid foods

	Below 25 years	25 years & above
solids 6 mon & below	14	18
solids above 6 mon	10	27

Odds ratio = 2.10 (0.69 <OR< 6.52)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	1.44	0.2297388

Mothers below the age of 25 years are more likely to introduce solids to the children at and below the age of 6 months compared to those mothers who are above the age of 25 years.

Table 6.3 Employment of father and age of introduction of solid foods

	Father unemployed	Father employed
solids 6 mon & below	22	17
solids above 6 mon	15	15

Odds ratio = 1.29 (0.45 <OR< 3.76)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	0.08	0.77500068

There is no difference between the age of introduction of solid foods between children of fathers who are employed and those who are unemployed.

Table 6.4 Employment of mother and age of introduction of solid foods

	Mother employed	Mother unemployed
solids 6 mon & below	6	28
solids above 6 mon	6	29

Odds ratio = 1.04 (0.25 <OR< 4.22)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	0.07	0.7930112

There is no difference in the age of introduction of solid foods in children of mothers who were employed and children of mothers who were unemployed.

Table 6.5 Social class and age of introduction of solid foods

	Social class 4-5	Social class 2-3
solids 6 mon & below	29	3
solids above 6 mon	26	9

Odds ratio = 3.35 (0.71 <OR< 17.67)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	2.03	0.154681

Mothers of social class 4-5 are more likely to introduce solids earlier to their children 3 times more than mothers who are in social class 2-3.

Table 6.6 Total monthly income and age of introduction of solid foods

	Less than £ 700	More than £ 700
solids 6 mon & below	23	4
solids above 6 mon	22	8

Odds ratio = 2.09 (0.47 <OR< 9.8)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	0.59	0.4409727

Mothers with a total household income of less than £700 are more likely to introduce solids at 6 months and below 2 times more than those mothers with an income of more than £700.

Table 6.7 Education of mothers and age of introduction of solid foods

	Less than 10 years	Above 10 years
solids 6 mon & below	18	14
solids above 6 mon	17	20

Odds ratio = 1.51 (0.53 <OR< 4.38)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	0.37	0.5403211

Mothers who had an education of more than 10 years are more likely to introduce solid foods to their children earlier than those who have an education of less than 10 years.

Table 6.8 House ownership and age of introduction of solid foods

	Not owned	Owned
solids 6 mon & below	17	15
solids above 6 mon	12	25

Odds ratio = 2.36 (0.80 <OR< 7.09)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	2.23	0.1356965

It was found that mothers living in houses not owned by them are more likely to introduce solids food more early than those mothers who live in houses owned by them.

Table 6.9 Statement of mothers that advice was given at the child clinic and age of introduction of solid foods

	Advice given	Advice not given
solids 6 mon & below	22	10
solids above 6 mon	24	13

Odds ratio = 1.19 (0.39 <OR< 3.68)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	0.01	0.9319831

It was found that there was no difference in the age of introduction of solid foods to the children of mothers who were given advice and those who were given no advice in the child clinic.

Table 6.10 Statement of mothers that advice was given in own language at the child clinic and age of introduction of solid foods

	Advice in own language	Advice not given in own language
solids 6 mon & below	3	20
solids above 6 mon	3	20

Odds ratio = 1.00 (0.14 <OR< 7,30)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	0.19	0.6615331

There is no difference in the age of introduction of solids in the children of mothers who were given advice in their own language and in those who were not given advice in their own language.

Table 6.11 Language difficulties encountered by mothers with health professionals and age of introduction of solid foods

	No Language Difficulties	Language Difficulties
solids 6 mon & below	18	15
solids above 6 mon	19	17

Odds ratio = 1.07 (0.37 <OR< 3.09)
Cornfield 95% confidence limits for OR

	Chi squares	P-values
Yates corrected	0.01	0.9246701

There is no difference in the age of introducing solids in the children of mothers without language difficulties and those with language difficulties with the health professionals.

The above findings are summarised with further statistical analysis in the following table.

Table 6.12 Summary of mothers who introduce solids early and those mothers who introduce late.

Findings	Odds Ratio	Chi Sq P-Value	Spearman's Correlation Coefficient	Kruskal Wallis test (Chi-square approximation Prob>Chisq
1-English language fluency	1.26	0.82	-0.080	0.711814
2-Age of mother	2.10	0.23	0.006	0.448831
3-Employment of father	1.29	0.78	0.026	0.395814
4-Employment of mother	1.04	0.79	0.028	0.865108
5-Social class	3.35	0.15	0.061	0.025181*
6-Total monthly income	2.09	0.44	0.139	0.335934
7-Education of mother	1.51	0.54	-0.035	0.284719
8-House ownership	2.36	0.13	-0.064	0.423012
9-Advice at child clinic	1.19	0.93	-0.104	0.529611
10-Advice at child clinic in own language	1.00	0.66	0.145	0.183993
11-Language difficulties with health professionals	1.07	0.92	-0.104	0.686610

* Kruskal Wallis test statistically significant

It was found in the above table that the characteristics of the mothers mentioned above are not related to introduction of solids (introduction of food from the family pot) early or late statistically.

Table 6.13 Summary statistics of maternal characteristics amongst Pakistani women who introduce solids early and late

Findings	Odds Ratio	Chi Sq P- Value	Kruskal Wallis test (Chi-square approximation Prob>Chisq)
1-English language fluency	1.53	0.64	0.7229
2-Age of mother	1.55	0.28	0.4528
3-Employment of father	1.25	0.89	0.6891
4-Employment of mother	1.25	0.95	0.2391
5-Social class	1.59	0.69	0.1004
6-Total monthly income	2.09	0.44	0.3359
7-Education of mother	1.85	0.38	0.2495
8-House ownership	3.2	0.06	0.5570
9-Advice at child clinic	1.36	0.84	0.4781
10-Advice at child clinic in own language	1	0.65	0.1445
11-Language difficulties with health professionals	1.03	0.83	0.5021

Odds ratios in the above table is indicative of trends amongst Pakistani women who introduce solids early and late.

Table 6.14 Summary statistics of maternal characteristics amongst Chinese women who introduce solids early and late.

Findings	Odds Ratio	Chi Sq P-Value	Kruskal Wallis test (Chi-square approximation Prob>Chisq)
1-English language fluency	2.00	1.00	0.4355
2-Age of mother	1.20	0.51	0.2443
3-Employment of father	1	0.44	0.2897
4-Employment of mother	2.5	1.00	0.7172
5-Social class	2.5	1.00	0.1410
6-Total monthly income	-	-	- *
7-Education of mother	2.5	1.00	0.2037
8-House ownership	1.25	0.52	0.3756
9-Advice at child clinic	1	0.54	0.4409
10-Advice at child clinic in own language	-	-	- **
11-Language difficulties	2.5	1.00	0.4408

* It was not possible to obtain the total monthly income from the Chinese community
** No advice was given to the Chinese in their own language with health professionals

Odds ratios in the above table are indicative of the characteristics amongst Chinese women who introduce solids early and late.

Part (7) Mothers' knowledge and attitude on breast feeding and weaning

Table 7.1 Mother's attitude on breast feeding and weaning

	Pakistani				Chinese			
	1	2	3	4	1	2	3	4
Bottle feeding fashionable	57%	28%	9%	6%	38%	56%		6%
3-6 months child thrive best on BF	60%	30%	9%	1%	40%	40%	13%	7%
Fats & oils in weanling's diet	8%	19%	24%	49%	6%	6%	24%	64%

1 = strongly agree
2 = agree
3 = disagree
4 =strongly disagree

85% of the Pakistani mothers and 94% of the Chinese mothers think that bottle feeding is fashionable, that is the current trend in the UK. Emphasis should be given to explain to the mothers that the trend now is towards breast feeding in the UK and this should be one of the main health messages given these mothers. 90% of the Pakistani mothers and 80% of the Chinese mothers think that a child of 3-6 months will thrive best on breast milk. 73% of the Pakistani mothers and 88% of the Chinese mothers think that fats and oils should not be included in the diet.

Table 7.2 Mothers' attitude concerning age when breast feeding should cease

	Pakistani		Chinese	
	no	%	no	
0 - 5 months	5	7.5%	2	11.8%
5 - 10 months	14	20.9%	3	17.6%
10 - 15 months	19	28.4%	8	47.1%
Over 15 months	29	43.3%	2	11.8%
Don't know	0		2	11.8%

43.3% of the Pakistani mothers think that breast feeding should be continued over 15 months. This also came up in the focus group interview in which the mothers mentioned that in Pakistan mothers breast fed their children up till the age of two years or until she was pregnant again. Only 11.8% of the Chinese mothers think that breast feeding should continue over 15 months.

Table 7.3 Mother's attitude on the age weaning should be started

	Pakistani		Chinese	
	no	%	no	%
0 - 2 months				
2 - 4 months	59	88.1%	10	58.8%
4 - 6 months	7	10.4%	6	35.3%
Over 6 months	1	1.5%	1	5.9%

Most of the Pakistani mothers as well as the Chinese mothers think that weaning should start at the age of 2-4 months.

Table 7.4 Willingness to watch health education video on breast feeding and weaning

Pakistani	55 (82.1%)	n=67
Chinese	12 (70.6%)	n=17

82.1% of the Pakistani mothers and 70.6% of the Chinese mothers would be willing to watch a health education video on breast feeding and weaning which strengthens the feasibility of using the video as one of the channels for communicating with the mothers.

Part (8) Problems with breast feeding

Table 8.1 Mothers' who encounter breast feeding problems

Pakistani	14 (43.7%)	n=32 (mothers who breast feed)
Chinese	0	

43.7% of the Pakistani mothers who breast fed encountered some problems concerning breast feeding compared to none in the Chinese community.

Table 8.2 Types of breast feeding problems among the Pakistanis

Insufficient milk	10 (71.4%)
Cracked nipples	3 (21.4%)
Others	1 (7.1%)

The main problems stated by the Pakistani mothers are insufficient breast milk and cracked nipple which could be solved with advice and encouragement by the health workers.

Part (9) Needs expressed by the mothers concerning sources of advice and support from health workers

Table 9.1 Need of a link worker by the mothers

Pakistani	28 (41.8%)
Chinese	11 (55 %)

41.8% of the Pakistani mothers and 55% (64.7% if the three English mothers were excluded) of the Chinese mothers said that they needed a link worker to be able to communicate with the health professionals. There is a Pakistani link worker in Arthurs Hill clinic and an Asian GP for the Pakistani mothers, but there is a need for more link workers in the antenatal clinics in Elswick and Fenham so that the mothers will be able to understand all the health messages. There is also a link worker in the Chinese community, but as the Chinese mothers are spread out all over the city there is also a need for more Chinese link workers. Also at the present moment the Chinese link worker is on maternity leave and this points to the fact that one link worker could not possibly cope with all the Chinese community.

Table 9.2 Mothers belonging to women's groups

Pakistani	4 (6%)
Chinese	0

Only 6% of the mothers in the Pakistani community belong to clubs and social groups compared to none in the Chinese. The main reason for the Pakistani community is cultural. 20% of the Chinese mothers were employed and they did not have time to be involved in any women's groups. Also there is a lack of women with innovative and leadership qualities in both the Pakistani and the Chinese communities to build up a women's group as the Bangladeshi community has done.

Table 9.3 Needs and support from health workers concerning breast feeding and weaning

	Pakistani		Chinese	
	no	%	no	%
More supp & adv from HV	16	23.9%	1	5%
More supp & adv from GP	12	17.9%	0	
More information on BF	3	4.5%	0	
Others	4	6%	1	5%
none	32	47.8%	18	90%

The main needs and support from the health professionals concerning breast feeding and weaning are that the mothers in the Pakistani community wanted more support and advice from the health visitors and the general practitioners. If the GPs could become involved in giving more information, support and advice on breast feeding there would be an increase in the rate and the duration of breast feeding.

Part (10) Anthropometric measurements

Table 10.1 Percentage of children weighed regularly

Pakistani	36 (62%)	n=58
Chinese	10 (52.6%)	n=19

It was found that only 62% of the Pakistani children and 52.6% of the Chinese children were weighed regularly. Only one mother was able to plot her child's weight chart herself and this may be due to the fact that she had attended antenatal classes in Jesmond which were held by the National Childbirth Trust.

Table 10.2 Length of Pakistani and Chinese children as a percentage of Tanner's 50th centile

	Pakistani		Chinese	
	no	%	no	%
less than 89 %	6	13.6%	1	6.25%
90 - 94 %	9	20.5%	2	12.5%
95 - 99 %	17	38.6%	5	31.3%
100 - 104 %	12	27.3%	6	37.5%
More than 105%			2	12.5%

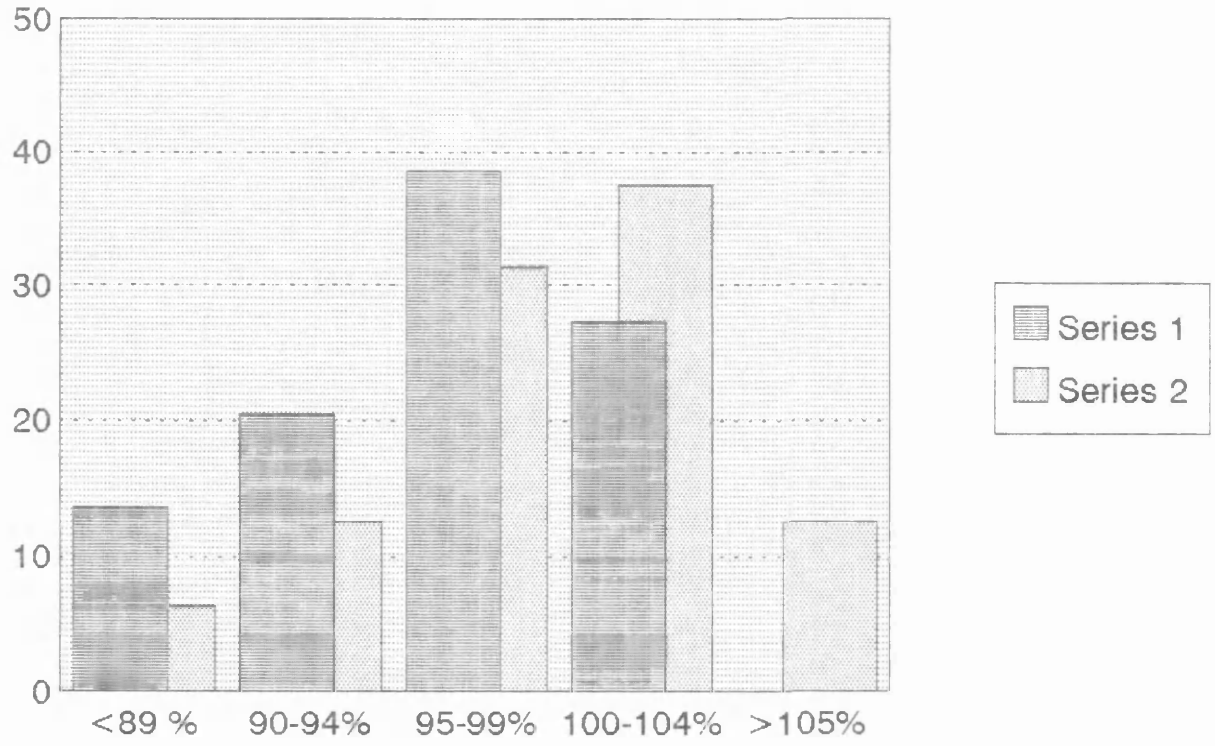
13.6% of the Pakistani children were below 90% of Tanner's 50th centile compared to 6.25% in the Chinese.

The mean percentile of the Pakistani children was 96.14 with a standard deviation of 4.93 compared to the mean of 100.41 and a standard deviation of 6.18 in the Chinese children. This may be due to many factors one of which may be inadequate weaning practices, which involve the use of commercial weaning foods containing no meat, compared to the Chinese. Warrington S. found a weak relationship between nutrition and growth in her study and others suggest that there may be a limiting level of food intake, below which an adverse effect on growth will occur but above which extra

amounts will not result in further improvements.(22) Other factors such as genetic influences, environmental factors such as family income, standard of housing and over crowded living conditions may also have an influence on the growth of the child. In general it has been observed that the housing conditions of the Chinese families seemed to be much better as nearly all the fathers were employed except one (5%) compared to the Pakistanis where 38.8% of the fathers were unemployed and were living on benefits.

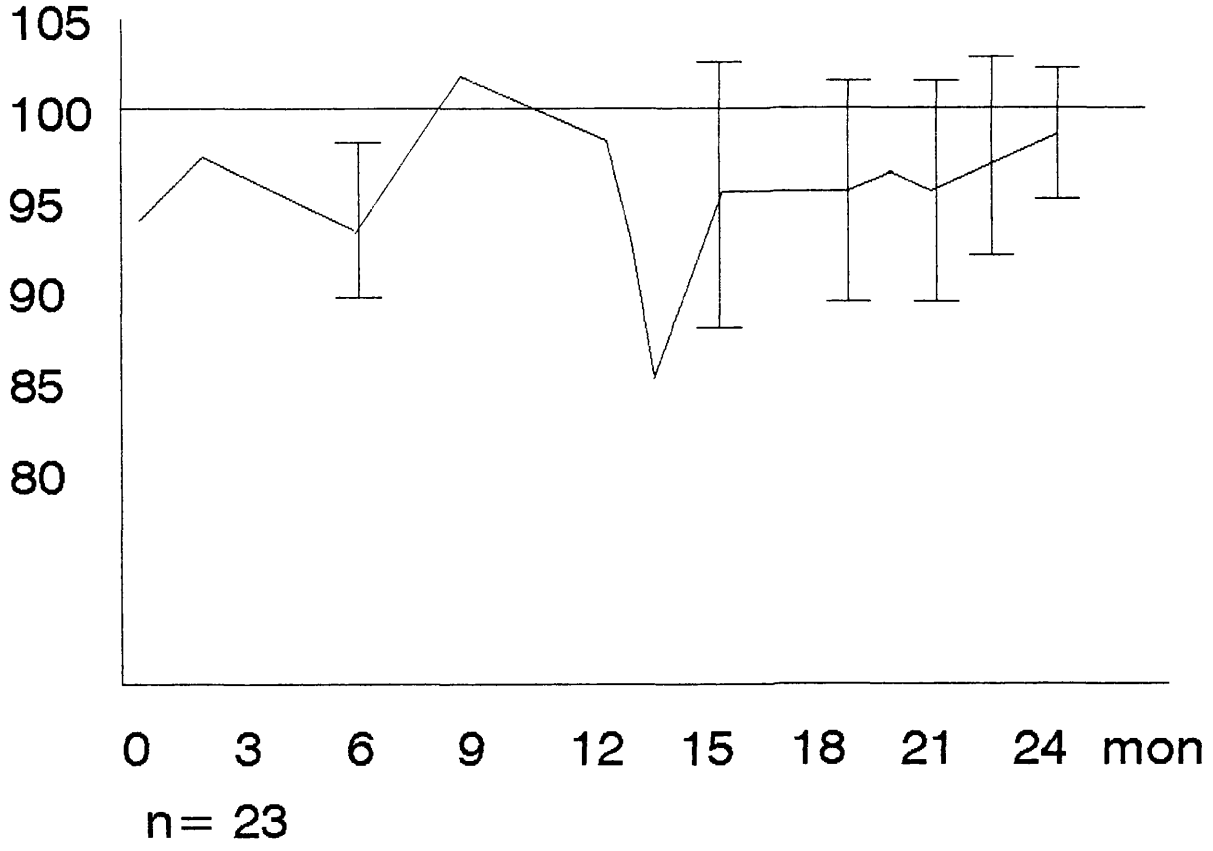
Length of Pakistani and Chinese children as a percentage of Tanner's 50th centile

Series 1 = Pakistani Series 2 = Chinese

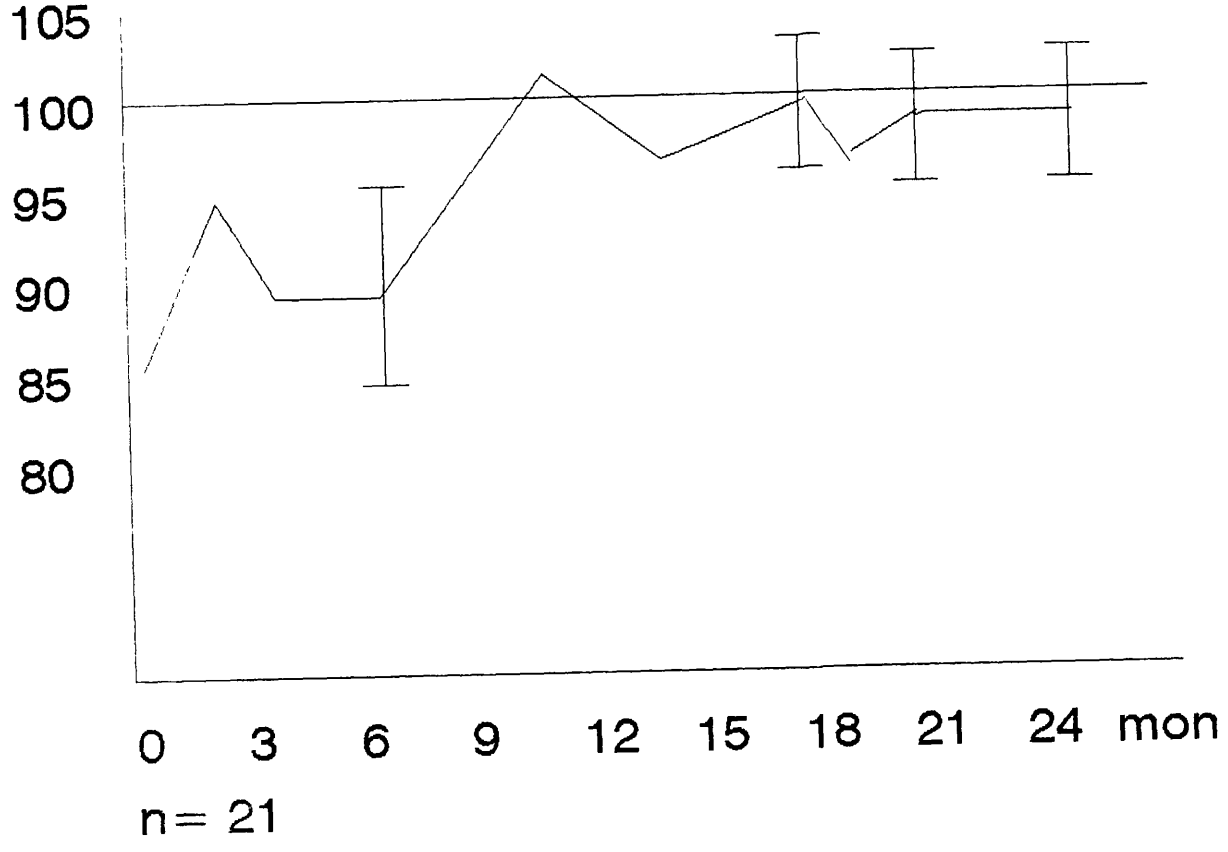


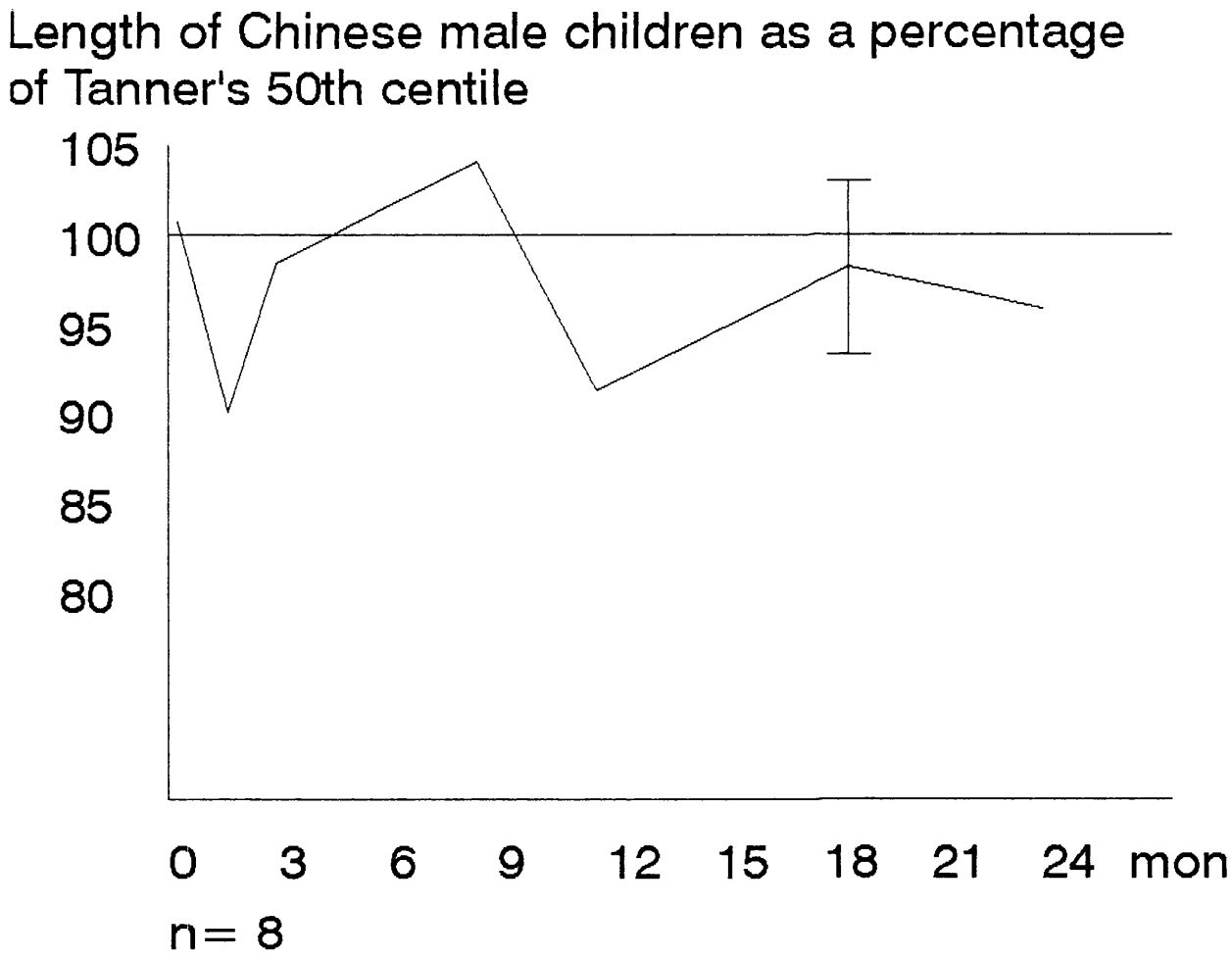
% of children as a percentage of Tanner's 50th centile

Length of Pakistani male children as a percentage of Tanner's 50th centile



Length of Pakistani female children as a percentage of Tanner's 50th centile




Length of Chinese male children as a percentage of Tanner's 50th centile
105
100
95
90
85
80
0
3
6
9
12
15
18
21
24
mon
n= 8

Length of Chinese female children as a percentage of Tanner's 50th centile

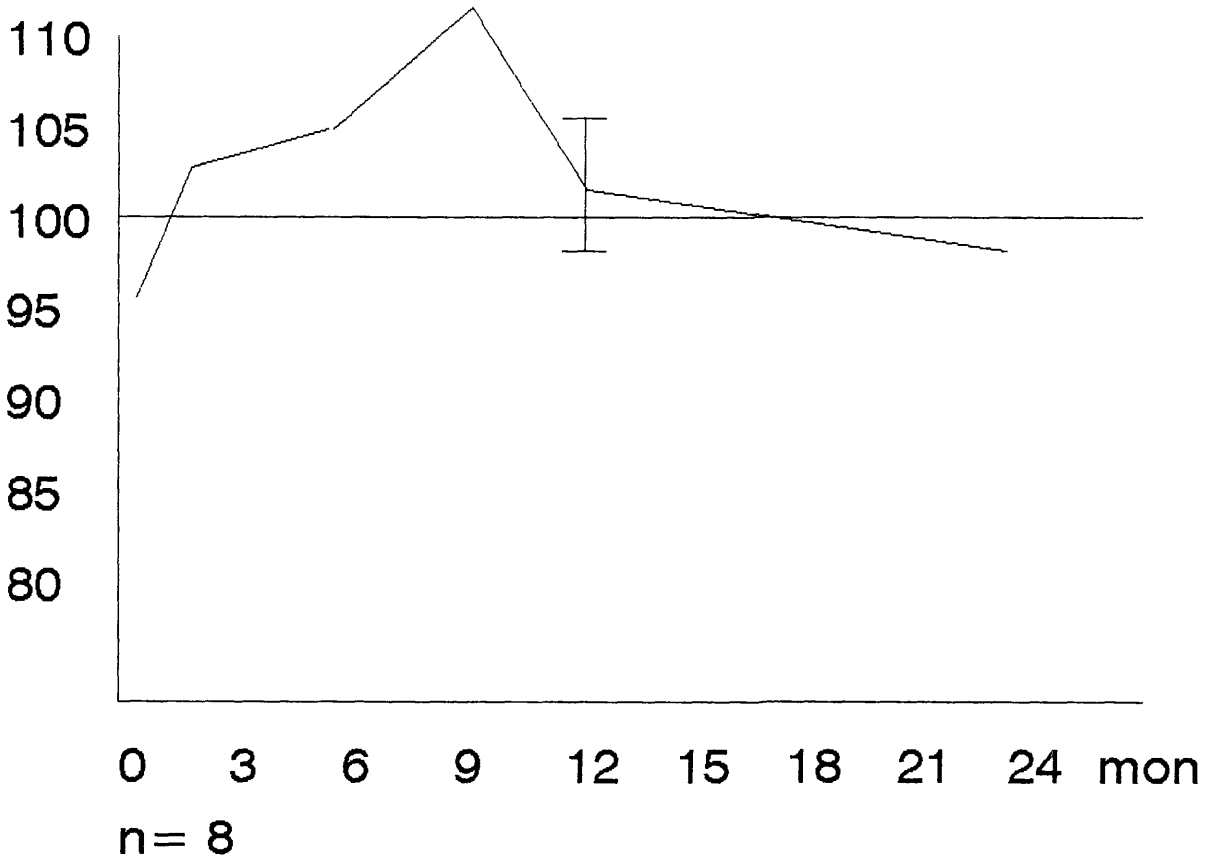


Table 10.3 Mid upper arm circumference of Pakistani and Chinese and Chinese children

	Pakistani		Chinese	
Age in months	12-17	18-24	12-17	18-24
Less than 124 mm				
125 - 134 mm	1			
More than 135 mm	10	23	2	4

There was no child with a mid upper arm circumference of less than 124 mm both in the Pakistani as well as the Chinese community. There was one child in the Pakistani community who was between 12-17 months of age with a mid upper arm circumference between 125-134 mm . Arm circumference (AC) has been proposed as an alternative to weight for height, as a measure for acute malnutrition because of its low cost and ease of performance, particularly for rapid field assessments of nutritional status in circumstances where resources and trained personnel are limited. Additionally, arm circumference is relatively independent of age. Because arm circumference changes only about 1 cm for children between 1-5 years, a single threshold measurement can be used to define malnutrition for children in this age range.(23)

Part (11) Growth in length of the child in relation to breast feeding and weaning

Table 11.1 The mean growth in length according to the percentages of Tanner's 50th centile in breast fed and non breast fed children

	Mean percentile	Standard deviation
Breast feeders	96.04	4.69
Non breast feeders	98.11	6.01

n= 24 breast feeders
n= 36 non breast feeders

T test
t = 1.49 2 tailed probability = .141

It was found that there is no difference in growth in length between children who are breast fed and those children who are not breast fed.

Table 11.2 Mean growth in length according to the percentages of Tanner's 50th centile in children on home made weaning foods and those on commercial weaning foods

	Mean percentile	Standard deviation
Home prep weaning foods	98.71	4.39
Commercial weaning foods	97.63	5.57

n= 7 Children on home prepared weaning foods
n= 46 Children on commercial weaning foods

T test
t = 0.59 2 tailed probability = 0.572

It was found that there is no difference in growth in length between children on weaning foods prepared at home and those children on commercial weaning foods.

Table 11.3 Mean growth in length according to the percentages of Tanner's 50th centile in children who were weaned less than 4 months and children who were weaned 4 months and above

	Mean percentile	Standard deviation
Weaning less than 4 years	97.22	3.66
Weaning 4 years and above	97.76	5.83

n= 18 Children weaned less than 4 years
n= 37 Children weaned 4 years and above

T test
t = 0.35 2-tailed probability = 0.728

It was found that there is no difference in growth in length between children who are weaned less than 4 years and those children who are weaned 4 years and above.

Part (12) Age of stopping breast feeding and age of weaning

Table 12.1 Age of stopping breast feeding

	Pakistani	Chinese
Age of stopping BF less than 4 months	23 (74.9)%	3 (60)%
Age of stopping BF 4 months & above	8 (25.1)%	2 (40)%
Total	31 (100)%	5 (100)%

It was found that only 25.1% of Pakistani mothers and 40% of Chinese mothers breast feed up till 4 months and above. The rest of the mothers, 74.9% of the Pakistani mothers and 60% of the Chinese mothers, stop breast feeding before the age of 4 months and have unsatisfactory breast feeding practices.

Table 12.2 Age of weaning

	Pakistani	Chinese
Wean less than 4 months	36 (56.25)%	12(66.66)%
Wean 4 months & above	28 (43.75)%	6 (33.33)%
Total	64 (100)%	18 (100)%

It was found that only 43.75% of Pakistani mothers and 33.33% of Chinese mothers wean their children at 4 months and above. The rest of the mothers, 56.25% of the Pakistani mothers and 66.66% of the Chinese mothers, wean their children before the age of 4 months and have unsatisfactory weaning practices.

The role of health services

The World Health Organisation and the United Nations Children's Fund have advocated a 10 point plan for every

health facility to promote successful breast feeding as follows:

1. Have a written breast feeding policy that is routinely communicated to all health workers.

2. Train all health care staff in the skills necessary to implement this policy.

3. Inform all pregnant women about the benefits and management of breast feeding.

4. Help mothers to initiate breast feeding within half an hour of delivery.

5. Show mothers how to breast feed and how to maintain lactation even if they should be separated from their infant.

6. Give no food or drink to newborn infants other than breast milk unless medically indicated.

7. Practice rooming-in 24 hours a day.

8. Encourage breast feeding on demand.

9. Give no artificial pacifiers or dummies to infants.

10. Foster the establishment of breast feeding support groups and refer mothers to them on discharge from the hospital or clinic.

With the above guidelines, all communities will be able to promote breast feeding. But the leading role in the promotion of breast feeding should be taken by the health services and unless this is done there will be no appreciable increase in the rate and duration of breast feeding. The major role should be taken over by the primary care team and all members of the primary care team should be motivated towards breast feeding and the content of the counselling and advice should be uniform to have the desired results. In Fenham and Elswick, the GPs and some of the local health authority staff are different. It is therefore necessary to have an agreed policy regarding the method and content of education on breast feeding.

Since the Chinese families are spread out all over Newcastle, the problem becomes more complex and there is a need for city wide policies along the Unicef guidelines.

5(B) Focus group discussion

A focus group discussion was held for the Pakistani community on 12-8-91 at Westgate Hill school in Fenham. Although a total of eight mothers were invited to participate in it, only four mothers with children under two years turned up. The discussion may be regarded as one with key informants and was not a typical focus group discussion. What is being described below is a consensus opinion of four mothers. A second focus group interview was also planned on 16-7-91 but none of the mothers turned up due to the reasons mentioned previously. The focus group interview was tape recorded, translated and transcribed.

The discussion outline used was:-

Question (1) How is it different having babies and raising children in Newcastle and in Pakistan? What are the main difficulties in Newcastle? Are there any advantages?

Question (2) Where do you turn for advice and help in feeding and raising infants?

Question (3) How did you feed your baby when it was first born? How did you decide whether to breast feed or bottle feed? Did you have any problems or concerns with breast or bottle feeding?

Question (4) Describe the advice about breast feeding and weaning you received in Newcastle for yourself and your children both before and during the birth and when your baby was young. Did you have any problem with feeding and weaning? Please tell about your experiences.

Question (5) Reflecting back on your experiences in having and raising children, what changes in health services or other services do you feel would make it easier for yourself or other Pakistani families to raise children here in Newcastle?

(a) Having babies and raising children in Newcastle

On breast feeding the mothers stated that the nuclear family structure in the United Kingdom was not supportive of breast feeding compared to Pakistan where the family structure was of an extended type.

One of the mothers said that here (Newcastle) there was more responsibility for the mother. She has housework, taking kids to school, shopping and running the whole household. Everything is time consuming and stressful whereas in Pakistan the mother can breast feed whatever time she likes. There is extended family in Pakistan and the family work is shared and there is not so much stress and responsibility just on the mother.

In Pakistan it is much easier and nicer to live. The tasks of running the house and bringing the children up are shared. If a mother is breast feeding, the others in the family will share the housework. Here the mother has the sole responsibility of everything.

On the children, one of the mothers said that children are a lot brighter and healthier in Pakistan. Here the children are very active. If you leave a child of four years alone in the house, he would hurt himself or burn the house down. But a four year old in Pakistan would not hurt himself and would know that burning down the house would be wrong. The reason children are a lot brighter in Pakistan is that here (Newcastle) the children are isolated. They have nothing to do after school. There is the extended family and the child learns a lot of things from other adults of the extended family in Pakistan. They know a lot more about life. A ten year old Asian child in the UK has the maturity of a five year old in Pakistan.

(b) Seeking advice and help on feeding and raising infants

The mothers stated that they would seek advice from the GP and the health visitor. But in Pakistan it would be the members of the extended family.

(c) Decision to breast or bottle feed your child

The mothers stated the reason why a high numbers of mothers bottle feed in the United Kingdom. It was mainly due to the

easy availability of infant formulas, lack of encouragement and support for breast feeding from the health workers as well as members of the family.

One of the mothers said that there was difficulty in feeding the babies in Pakistan. It is easier to feed here because of choice of breast and bottle. They could switch on to different milk.

One of the mothers breast fed both of her children because she was encouraged by older women in the community. She gave commercial weaning preparations, but looking back now she wished that there was someone to encourage her to breast feed and prepare weaning foods at home.

Another mother remarked that out of the three children she had, she breast fed the last one only. There was nobody to advise and encourage her to breast feed. When she did breast feed her child and went to Pakistan for a visit, her sister told her that commercial weaning preparations were not good. She brought up the last child completely differently from the others. She wished that she had more encouragement to breast feed but there was nothing.

In Pakistan you breast feed your child up till the age of one after which solids are introduced. No commercial foods.

Honey is given to the child. If there is not enough milk then you have to switch to cow's and goat's milk. There is no choice for the mother. This makes the mother eat well and drink milk. The child gets enough out of the mother. Mother's milk will give the child everything it needs. Here the child is given breast milk, bottle, commercially prepared foods, ribena, gripe water and anything which is advertised and says its best for the child. By taking mother's milk they suffer from less illness in Pakistan than here. They don't come up with a lot of rashes.

(d) Advice received on breast feeding and weaning and problems encountered

On advice received on breast feeding and weaning, the mothers stated that sometimes they were given conflicting advice on breast feeding and they were sometimes confused.

One mother said the advantages of receiving advice in Pakistan are that you are not given a choice. You are encouraged by the hospital, health visitors and elders in the family. If you have a baby the midwife won't give you much choice on the matter, no matter how ill you are. She would see that you have to cope with breast feeding but once its started its very easy. She said she bottle fed because

the midwife and health visitor told her to. The doctor also encouraged her to bottle feed. She was confused because she knew that breast feeding was best.

Another mother said she breast fed but there was not enough milk. She turned to the midwife and health visitor. They advised her to bottle feed saying she hadn't enough milk.

One of the mothers remarked that she bottle fed because she had no encouragement. She was brought up here and she felt bottle was best and she chose it.

One of the mothers who breast fed said that when the child cried, the health visitor and the doctor advised her to bottle feed because the child was not getting enough milk.

On weaning the mothers said that they were told to wean the child at three months. They haven't any problems with weaning either here or in Pakistan. One mother said she didn't wean her first three children in Pakistan at the age of three months, but its okay they are growing well.

Comparing the breast feeding practices with Pakistan one mother said she gave breast milk for a whole year without commercial food. Some mothers breast feed until the child is three to four years if there is no other baby. The child

is very healthy. There are no other problems at all. Here there is no encouragement for the mother to have more or change the diet so that you can feed your baby. If you haven't enough milk, they ask you to change to powdered milk. Here the pattern of feeding is time wise four hourly (on schedule feeding). The baby is bound to get hungry before four hours. Here the baby is fed semi solids at three months and solids at six months. They give the baby also water and sweet drinks. Mothers think that it is modern and medically sound. They automatically switch on to that pattern. In Pakistan they do not follow any pattern. At night the mother gets up to feed the child. Breast feeding for ten to fifteen minutes each breast is not followed in Pakistan. The child is given one breast for a few minutes and switched on to the next. If the child has had enough, he is put down. If the child is hungry, he is fed again. Because there is so much commercial food, it is an easy option to buy it. In Pakistan you get fresh food. You give commercial food here because of convenience. Commercial food has a lot of artificial stuff. There is no encouragement to give fresh food here. When the health visitor asks how your baby is doing and what you feed your baby and you tell them and that's it. You are left to continue with whatever you're feeding. In Pakistan you would be told by an elderly woman in the community.

(e) Changes in health services

On changes they would like to see on the health services, the mothers said that there are advantages here and they are that the GPs, the health visitors and the medicines themselves are more advanced than in Pakistan. If a child was ill here doctors are easier to get hold of. You don't have to worry about paying. In Pakistan you have to pay for the doctors. That reduces stress for the parents. In Pakistan if you call a doctor or are admitted to the hospital, you have to pay. It is a lot easier to go to the doctor and health visitor. Medically for the child its a lot better here but socially not.

6. RECOMMENDATIONS

(A) Antenatal clinic

1. As 17.9% of the Pakistani mothers and 30% of the Chinese others had no knowledge of English at all, link workers should be used in the antenatal clinic so that there would be better communication between the mothers and the health professionals and advice on breast feeding could be understood.

2. Since 65.7% of the Pakistani mothers and 70% of the Chinese mothers could read and write in their mother tongue, pamphlets on health education concerning breast feeding should be developed and distributed in their local language.

3. On the needs and support from the health workers concerning breast feeding, 4.5% of Pakistani mothers wanted more information on how to breast feed the child which should include the various positions for feeding the child, duration and frequency of feeds and care of the nipples.

4. 81.8% of Pakistani mothers and 65% of Chinese mothers stated that they were given advice to breast feed at

the antenatal clinic. Since clinics differ in their approach, there should be an agreed policy for more emphasis and encouragement for the mothers to breast feed as well as for the content and method of teaching.

5. 43.7 % of Pakistani mothers encountered problems with breast feeding, the most common problem being insufficient breast milk. It is also the main cause of discontinuation of breast feeding. It is necessary to give more emphasis to a common strategy for advising the mothers through the child clinics or by means of health visitors.

6. Since 85% of Pakistani mothers and 94% of Chinese mothers think that bottle feeding is fashionable, it is important to explain to the mothers that bottle feeding is not fashionable (not the current trend in UK) and that the trend has shifted towards breast feeding.

7. Since it was found that mothers who were given advice at the ante natal clinic were likely to breast feed more than those mothers who were given no advice, further research should be carried out on the type of advice that was given and the method used.

(B) At the hospital

1. Since mothers stated that options and a free choice on the method of feeding the baby is given at the hospital, the hospital should give more encouragement and advice to breast feed rather than offering only a choice between bottle and breast. The hospital practices towards breast feeding should also be looked into.

2. Since 25.7% of mothers in the Pakistani community do not breast feed due to caesarean section, there is a need to educate the mothers that caesarean section is not a contraindication to breast feeding. Labour ward staff should also encourage these mothers to breast feed.

3. The computerised birth register should contain also the ethnic group and country of origin for future research projects in the ethnic minorities since difficulties were encountered in differentiating names between different Asian ethnic minorities in the present study.

(C) In the community

1. More encouragement and advice by the community health workers to prolong the duration of breast feeding, especially in cases where mothers face a problem of insufficient milk, instead of advising these mothers to "top up" with infant formulas resulting in mothers giving up breast feeding.

2. Health education videos on breast feeding and weaning in their local language should be passed around in the community to expectant mothers by the community midwife after which relevant points should be discussed on the next visit, due to the fact that 23.9% of the Pakistani mothers are illiterate.

3. More advice and demonstrations to the mothers on preparation of weaning foods at home so that a variety of foods could be given in addition to commercial weaning preparations containing no meat.

4. Encouragement to the mothers to attend the children's clinic more regularly to have their children weighed as only 62% of the Pakistani mothers and 52.6% of Chinese mothers have their children weighed regularly.

(D) Children's clinic

1. To explain to the mother the importance of the weight chart, to teach them how to plot the weight of the child on the weight chart after weighing their children so that they would become more involved and have more concerns on the growth of their children since only one of the mothers could plot her child's weight chart.

(E) Primary care team

1. The role of the general practitioner, especially those in areas where there is a high concentration of ethnic minorities, in promotion and prolongation of breast feeding should be considered as 17.9% of the Pakistani mothers wanted more support and advice from the general practitioner.

2. To motivate the primary care team members by conducting a training workshop on the promotion of breast feeding in the community.

3. In the focus group discussion it was found that conflicting advice was given to the mother particularly to bottle feed as the baby was not getting enough milk.

There is need to ensure that unified health messages concerning breast feeding and weaning are given, training material and health messages should be developed and disseminated.

4. To explore the possibility of employing more link workers trained in health education in the community as there were very few link workers in the Pakistani community and only one in the Chinese community.

5. The primary care team members should also have records on breast feeding mothers especially on the rate and duration so that data between different wards and ethnic groups could be compared for future plans to promote breast feeding.

(F) General

1. There is need and potential for the commercial production of halal baby food in the Pakistani community as most Pakistani mothers rely only on commercial weaning foods and market research found that commercial halal baby food was widely accepted by Moslem families.

2. There is also the need to explore the possibility of forming a social organisation or group for women as the Bangladeshi community has done in Newcastle so that women could meet and discuss their problems.

3. There is also need to form a group in the community that supports breast feeding so that expectant mothers could be encouraged to breast feed by the women in their own community, possibly with the support of the National Childbirth Trust.

7. CONCLUSIONS

1. There is difficulty for some of the mothers to communicate with the health professionals due to language barriers.

2. Most of the mothers who breast feed their children tend to breast feed almost exclusively.

3. The main reason for not breast feeding in the Pakistani community is the change in the family structure, from the extended family in Pakistan to the nuclear family in the United Kingdom.

4. Pakistani mothers tend to use commercial weaning foods containing no meat while the Chinese mothers tend to rely on home cooked preparations. The weaning practices of the Chinese mothers seem to be more satisfactory than the Pakistani mothers as most of them use a variety of home prepared weaning foods.

5. Most of the mothers think that bottle feeding is the current trend in the United Kingdom.

6. Most of the mothers wanted more support and advice from the health visitors and general practitioners concerning breast feeding and weaning.

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APPENDIX (1)

Breast feeding and weaning practices in children under 24 months

Questionnaire

Serial No.....

Date of visit.....

Time Started.....
Time finished.....
Total time taken.....

Part (1) Household Information

1-Ward.....

2-Ethnic Group.....

3-Marital status of Mother

Stays with husband	____	1
widowed/divorced	____	2
separated	____	3
co-wife	____	4

4-Age

father	.....
mother	.....

5-Language

	Father	Mother	
(a)English			
English(Fluent)	____	____	1
English(reasonable)	____	____	2
English(understand)	____	____	3
English (Nil)	____	____	4
(b) mother tongue(read/write)			
yes	____	____	1
no	____	____	2

6 (a) Employment

	Father	mother	
Employed	____	____	1
Self employed	____	____	2
Unemployed	____	____	3

(b) If employed is it

part time	____	1
full time	____	2

(b)-Occupation

	father	mother	
Skilled	____	____	1
Semi-skilled	____	____	2
Unskilled	____	____	3

(specify) ..... (specify).....

(c) If unemployed- Since

1-3 months	____	1
3-6 months	____	2
6-9 months	____	3
9-12 months	____	4
Over 1 year	____	5

7- total monthly income

less than 300 pounds	____	1
300-400	____	2
400-500	____	3
500-600	____	4
600-700	____	5
more than 700 pounds	____	6

8-Education

	father	mother	
None	____	____	1
Primary 1-5	____	____	2
Secondary 5-10	____	____	3
Over 10 years	____	____	4

9-(A) place of birth

	father	mother	
U.K.	____	____	1
Pakistan	____	____	2
China	____	____	3
Singapore	____	____	4
Hongkong	____	____	5
Vietnam	____	____	6

Others (specify).....

(B) Are your parents in law in this country

yes	____	1
no	____	2

(C) Are your parents in this country

yes	____	1
no	____	2

10-Length of stay in UK

	father	mother	
less than 1 yr	____	____	1
1 - 2 yr	____	____	2
2 - 3 yr	____	____	3
3 - 4 yr	____	____	4
4 - 5 yr	____	____	5
more than 5 yr	____	____	6

11-Length of stay in present address

less than 1 year	____	1
1 - 2 years	____	2
2 - 3 years	____	3
3 - 4 years	____	4
4 - 5 years	____	5
more than 5 years	____	6

12-No. of household members .....

13-Type of household

nuclear	____	1
extended	____	2

others(specify).....

14-Are there relatives in UK

yes	____	1
no	____	2

15(a)-House

owned	____	1
rented	____	2
shared	____	3
council	____	4
Others.....		

(b) Do you have a video ?

yes	____
no	____

16(A) -Benefits received

Income support	____	1	Maternity benefit	____	6
Single private benefit	____	2	Family credit	____	7
Unemployed benefit	____	3	Sickness benefit	____	8
Child benefit	____	4	Milk tokens	____	9
Housing benefit	____	5	Invalidity	____	10

Others.....

(B) If you receive milk tokens how many per week do you receive?.....

(C) Where do you exchange your milk tokens?
.....

(D) Do you use that milk to feed your child?

Yes	____	1
No	____	2

(E) If you receive child benefit, how much of that money do you use buy milk formulas for your child ?

none	____	1
1-20 %	____	2
20-40 %	____	3
40-60 %	____	4
60-80 %	____	5
more than 80 %	____	6

(d) If yes, whose advice was it?

Mother in law	____	1
father	____	2
Health workers	____	3
self	____	4

17(a)-Do you read any newspaper

yes	____	1
no	____	2

(b)-If yes, what?

In local language	____	1
In English	____	2

others.....

18-(a) Do you have any other sources of written information on breast feeding ?

yes	____	
no	____	

(b) If yes, is it from

magazines	____	1
pamphlets from AN clinic	____	2
Pamphlets from child clinic	____	3

Others (specify).....

(b) Do you prefer pamphlets in your local language

yes	____	1
no	____	2

Part (2) Pattern of breast feeding

19-Age of child months.....

20-Sex

male	____	1
female	____	2

21-Where was the child born

UK	____	1
Pakistan	____	2
China	____	3
Hong Kong	____	4
Taiwan	____	5
Singapore	____	6
Vietnam	____	7
Others.....		

22-Did you attend the AN clinic when you were pregnant with this child?

yes	____	1
no	____	2

23(A) If yes, was advice given to you on breast feeding and weaning in the AN clinic.

yes	____	1
no	____	2

(B) If yes, was it given in your language?

yes	____	1
no	____	2

(C) Was any pamphlets on breast feeding given in your language?

yes	____	1
no	____	2

(D) Were you given options on breast feeding or bottle feeding in hospital

yes	____	1
no	____	2

(E) If yes what did you choose?

breast	____	1
bottle	____	2
mixed	____	3

(F) Why .....

(G) Were you encouraged to breast feed by the health workers?

yes	____	1
no	____	2

(H) If yes, please specify who? .....

(I) Did you attend the children's clinic?

yes	____	1
no	____	2

(J) Was advice given to you on breast feeding and weaning in the children's clinic?

yes	____	1
no	____	2

(K) If yes, was it in your language?

yes	____	1
no	____	2

(L) Were any pamphlets on breast feeding and weaning given in your language?

yes	____	1
no	____	2

24-Birth order.....

25-Did you breast feed this child

yes	1
no	2

26-If yes, when did you start

Just after birth	1
Within 24 hours	2
Within 72 hours	3
After 3 days	4

27-Did you give colostrum if you breast fed after 3 days?

yes	1
no	2

28(A)-How long did you exclusively breast feed

less than 2 weeks	1
2 - 4 weeks	2
4 - 6 weeks	3
6 - 8 weeks	4
8 - 10 weeks	5

Others.....

(B)-When the child was on breast milk only were you offering water or fruit juice?

water only	1
fruit juice only	2
both	3
none	4

(C)-Do you use a dummy or pacifier ?

yes	1
no	2

29(A)-Is the child still being breast fed? yes ____ 1
no ____ 2

(B)-If yes whose advice did you use

mother in law	____	1
father	____	2
friends	____	3
health worker	____	4
others	____	5

30-If not breast fed

(a)Why

Insufficient breast milk	____	1
Painful cracked nipples	____	2
No time	____	3
Advice by health worker	____	4
Artificial milk convenient	____	5
Mother/Child sickness	____	6
Not approved in the community	____	7
Husband did not permit	____	8

Others.....

(b)What did you give

Infant formula	____	1
Cow's milk	____	2

Others.....

(c)What infant formula did you use
.....

(d)Why.....

(e)How did you give it

bottle	____	1
spoon	____	2

(f)Observation-Hygiene of feeding bottle

wash with hot or cold water		1
hot water and brush		2
hot water, soap and brush		3
hot water, detergent and brush		4
hot water and soap		5
rinsing with Milton tablets		6

(g)Did the health workers tell you how to clean the bottles

yes		1
no		2

31(A)-From whom did you get advice regarding breast feeding

Health Visitor		1
Midwife		2
Community Midwife		3
Doctor		4
Mother/Mother in law		5
Friends		6
none		7

Others.....

(B) Does your husband approve of your breast feeding?

yes		1
no		2

(C) If no, does your husband permit you to breast feed?

yes		1
no		2

32-If child is not breast feeding at what age in months did the child stop
Age in months.....

33-If this is not your first child how long did you breast feed your last child.....

Part (3) Patterns on Weaning

34- Try to recall the age the following items were given to the child.

Other milk	begun	at	____	month
Infant formulas	begun	at	____	month
Water	begun	at	____	month
Juice	begun	at	____	month
Sweet drinks	begun	at	____	month
Semi solids	begun	at	____	month
Solids	begun	at	____	month

35-What was the first food did you start weaning with ?
.....

36-Considering the child's diet yesterday, please indicate whether or not the child received each of these items

Breast milk	____	1	soft rice	____	7
Other milk	____	2	Food from family pot	____	8
Infant formulas	____	3	bread	____	9
eggs	____	4	biscuits	____	10
fish\meat	____	5	butter	____	11
vegetables	____	6	commercial preparations	____	12

37-Total number of feeds yesterday .....

38(A)-If commercial weaning preparations given
(a)Which one .....
(b)Why.....
(c)Where obtained.....
(d)Price/packet.....

(B)Did any one demonstrate the preparation of infant formulas or weaning foods?

yes	____	1
no	____	2

(C)If yes, please specify who it was.....

Part(4) Mother's knowledge and attitude of breast feeding and weaning in the community

39-How long does the mother think breast feeding should continue unsupplemented (only breast feeding)

0-2 months	____	1
2-4 months	____	2
4-6 months	____	3
over 6 months	____	4

40-(A)-When does the mother think breast feeding should stop completely?

0-5 months	____	1
5-10 months	____	2
10-15 months	____	3
Over 15 months	____	4

(B)-Do you think bottle feeding is fashionable?

strongly agree	____	1
agree	____	2
disagree	____	3
strongly disagree	____	4

(C)-If you bottle feed, why do you prefer bottle feeding?

modern	____	1
convenient	____	2
more appropriate for child	____	3
Child grows more	____	4
Others		

41-In the mothers opinion the child who is between 3-6 months of age will thrive best on breast

strongly agree	____	1
agree	____	2
disagree	____	3
strongly disagree	____	4

42-(A)When the mother is breast feeding how does she prefer to do it?

At home discretely	____	1
At home no worry about privacy	____	2
In public if need be	____	3

(B)Do you think breast feeding restricts your social activities such as

	yes	no	
visiting friends	____	____	1
visiting relatives	____	____	2
leisure activities	____	____	3
others	____	____	4

43-What age should weaning start?

0-2 months	____	1
2-4 months	____	2
4-6 months	____	3
Over 6 months	____	4

44- (A)Do you think fats and oils should be included in a weanling's diet?

yes

strongly agree	____	1
agree	____	2
disagree	____	3
strongly disagree	____	4

(B) Would you like to know about recipes on preparing different types of food and infant formulas?

yes	____	1
no	____	2

(C) Would you watch a health education video on breast feeding and weaning?

yes	____	
no	____	

Part (5) Problems encountered with women on breast feeding and weaning

45-Do you have any problems with breast feeding? ____

yes	____	1
no	____	2

If yes, are they due to-	cracked nipple	____	1
	insufficient milk	____	2
	not enough time	____	3
	influence of indigenous people	____	4
	any form of advertisement	____	5
	Others.....		

46(A)Do you have any problems with weaning ____

yes	____	1
no	____	2

(B)If yes, are they due to- ____

not able to prepare food at home	____	1
not able to buy commercial food	____	2

(C)Do you have concerns about the growth of your child? ____

yes	____	1
no	____	2

(D)If yes please specify?.....

Part (6) Needs and priorities concerning social support and sources of advice

47(a)-Do you have any language difficulties when seeking advice from

	yes	no	
Hospital	☐	☐	1
GP	☐	☐	2
Health Visitor	☐	☐	3
Community Midwife	☐	☐	4
Child Clinic	☐	☐	5
Not visited any	☐	☐	6

(b) Where do you go when you have breast feeding problems?
.....

(c) Do you need a link worker	yes	☐	1
	no	☐	2

(d) Have you received any pamphlets on breast feeding, caring of babies and weaning?

yes	☐	1
no	☐	2

(e) From which source and language (own observation)
.....

(f)Do you belong to any local organisation ?

yes	☐	1
no	☐	2

(g) If yes please specify.....

48-Whose advice is taken concerning breast feeding and weaning?

father	☐	1
mother	☐	2
mother in law	☐	3
health visitor	☐	4
other women from the family	☐	5

49-What are the needs according to priority concerning social support and advice on weaning and breast feeding
.....

Part (7) Health of the child

50-Has the child has had any illness?

diarrhoea	____	1
asthma	____	2
respiratory infection	____	3
vaccine preventable d/s	____	4

Others.....

51-(A)Is there any weight chart?

yes	____	1
no	____	2

(B)If yes is it up to date? (weighed in last 45 days)

yes	____	1
no	____	2

(C)Do you bring and show the weight chart to the health professionals?

yes	____	1
no	____	2

(D)If yes do they look at it and make comments?

yes	____	1
no	____	2

52-If regular weighing, is the child

growing normally	____	1
flattening	____	2
faltering	____	3

53-Present state

MAC .....
Hb% .....
Wt .....
Ht .....

54-Do you attend the children's clinic

yes	____	1
no	____	2

APPENDIX (2) (A)

Calculation of Sample Size (Pakistani Community)

Population Survey or Descriptive Study Using Random (Not Cluster) Sampling

Population Size	:	257
Expected Frequency	:	30.00 %
Worst Acceptable	:	20.00 %

Confidence Level	:	Sample Size
80 %		30
90 %		47
95 %		61
99 %		90
99.9 %		121
99.99 %		142

Formula : Sample Size = n/(1 - (n/population))
n = Z*Z(P(1-P))/(D*D)

Reference : Kish & Leslie, Survey Sampling, John Wiley & Sons, NY, 1965

APPENDIX (2) (B)

Calculation of Sample Size (Chinese Community)

Population Survey or Descriptive Study Using Random (Not Cluster) Sampling

Population Size	:	32
Expected Frequency	:	15.00 %
Worst Acceptable	:	5.00 %

Confidence Level	:	Sample Size
80 %		13
90 %		17
95 %		19
99 %		23
99.9 %		26
99.99 %		27

Formula : Sample Size = n/(1-(n/population)
n = Z*Z(P(1-P))/(D*D)

Reference : Kish & Leslie, Survey Sampling, John Wiley & Sons, NY, 1965.

APPENDIX 3

Statistical Methods Used

Odds ratio

This ratio equals ad/bc which is a cross product of a 2 * 2 table.

Yates' continuity correction

Yates' correction for continuity involves subtracting 0.5 from positive differences between observed and expected frequencies (the residuals) and adding 0.5 to negative differences before squaring.

The formula is:-

$$\text{Chi squared} = \frac{\Sigma \left(|O - E| - 1/2 \right)^2}{E}$$

degrees of freedom = 1

t test

Based on the sampling distributions one can calculate the probability that a difference at least as large as the one observed would occur if the two population means are equal. The probability is called the significance level. If the observed significance level is small enough, usually less than 0.05 or 0.01, the hypothesis that the population means are equal is rejected.

Spearman correlation coefficient

The values of each variable are independently ranked and the mean is based on the differences between the pair of ranks of the two variables.

The formula is:-

$$Rs = \frac{6 \Sigma d^2}{n (n^2 - 1)}$$

d = is the difference between each pair of ranks

n = is the number of subjects