

Chapter : III

THE BASE - LINE SURVEY

As reported earlier, the experimental study was carried out in three major stages, namely, the base-line survey; organising a package of health care and growth - monitoring activities for the study children; and imparting health education to the mothers of these children. This chapter presents the survey findings of 115 families residing in Harijanwas and Sardargram pockets of Pensionpura slums located in administrative ward number nineteen of Vadodara city. At the outset, it would be in order to briefly delineate the rationale behind the survey, other than indeed, the objective of identifying the target families. The researcher on account of her substantial field experience in slum community work and course teaching of 'Rural, Urban, Tribal Community Development' did have an insight that the intended study would not only be relevant but also a viable one. But for any scientific inquiry such 'insight' alone is inadequate. More so for an experimental study where-in empirical data must form the basis for the underlying assumptions leading to the study design. Mullen E.J. (1972) et. al. observes that many projects fail to reach their goals because the following question has been inadequately considered: on, what basis and towards what end, will who do what to whom, for how long, with what effect and with what benefits ?

The present survey addressed itself to the task of determining the demographic and socio-economic condition of the respondent families and also sought relevant information pertaining to certain factors closely related to the health of underfives i.e. daily diet patterns, actual per day consumption of essential food items, incidence of preg-

nancy wastage and child mortality, utilization of ante-natal, natal, post-natal and family planning services, age at weaning and types of weaning foods given etc.,. The gleanings from the survey analysed for suitable statistical measures follow.

3.1 Religion, Caste, Mother Tongue and Native Place

Religion, caste, mother tongue and place of origin are some of the important cultural variables as far as health and illness in a society is concerned. Medical scientists have well established the close link between cultural factors and personal hygiene, nutrition, family planning, immunisation, child rearing, disposal of refuse and excreta, environmental sanitation, outlook on health and disease, propensity to seek timely medical care etc. or in short, the way of life. India being a traditional society, the study of these cultural factors becomes fundamental to our purpose.

TABLE : 3.1

Religion, Caste, Mother Tongue and Native Place

Variable	Distribution	
	F	%
<u>Religion</u>		
i) Hindu	106	92.17
ii) Christian	6	5.21
iii) Muslim	3	2.60
iv) Others	0	0.00
Total :	<u>115</u>	<u>99.98</u>

Variable		Distribution	
		F	%
<u>Caste</u>			
i)	Harijan	51	44.34
ii)	SC/ST other than Harijan	48	41.73
iii)	Upper castes	7	6.80
iv)	Non-castes	9	7.82
Total :		<u>115</u>	<u>99.97</u>
<u>Mother Tongue</u>			
i)	Gujarati	85	73.91
ii)	Marathi	15	13.04
iii)	Hindi	6	5.21
iv)	Any other	9	7.82
Total :		<u>115</u>	<u>99.98</u>
<u>Native Place</u>			
i)	Baroda district	65	56.41
ii)	Gujarat State but not Baroda district.	18	15.82
iii)	Outside Gujarat	32	27.75
Total :		<u>115</u>	<u>99.98</u>

In the study it was found that a vast majority of the families were Hindus 92.17% followed by Christians 5.21%, Muslims 3.0% and 'Nil' reporting for 'any other' category. This meant that we had a near homogeneous population on the religion criterion which facilitated further health interventions. However, caste-wise distribution presented a heterogeneous picture, with Harijans or, the so called 'untouchables' making up for 44.34% ; schedule castes and schedule tribes other than Harijans adding upto 41.73%;

and the remaining being upper castes - 6.08% and non-castes - 7.82%. The upper caste families were mainly migrants from outside Gujarat, especially Rajputs and Thakurs from Rajasthan. Christians and Muslims were classified as non-castes since these religions do not have a caste system akin to Hindus.

Throughout the study we found that Harijans in comparison with other caste groups were invariably less participative in the intervention programmes. In fact, each time we had to be more persuasive in their case whereas others readily joined in. Harijans, having suffered severe social discrimination for centuries together, it was hardly surprising that they were sceptical about our work.

Based on the criterion of mother tongue our population was distributed as follows : Gujarati - 73.91%, Marathi - 13.04%, Hindi - 5.21%, 'Any other' - 7.82%. 'Any other' category included Punjabi, Sindhi, Tamil & Nepali. It was decided to prepare our audio-visual aids for the health education programme in Gujarati.

Regarding place of origin, study revealed that 56.41% belonged to Baroda district, 15.82% families hailed from within Gujarat but districts other than Baroda and close to one-thirds i.e. 27.75% had migrated from outside Gujarat. One can catch a glimpse of the cosmopolitan character of Vadodara city in the slum area too.

3.2 Family Type, Family Size and Food Consumption Units in a Family.

In our study, under nuclear families we included those families where a couple and their un-married children were residing; while in joint families there were one or more additional members, related to the couple and living in the same household. Accordingly, there were 63.06% nuclear families and the rest 36.92% were joint; both figures being typical of urban living.

TABLE - 3.2

Family Type, Family Size and Food Consumption units
(in a family)

Variable		Distribution	
		F	%
Family Type			
i)	Nuclear	73	63.06
ii)	Joint	<u>42</u>	<u>36.92</u>
	Total	<u>115</u>	<u>99.98</u>
Family Size			
i)	2 - 3	18	15.65
ii)	4 - 5	64	55.65
iii)	6 - 7	27	23.47
iv)	8 - 9	6	5.21
v)	10-11	<u>0</u>	<u>0.00</u>
	Total	<u>115</u>	<u>99.98</u>
Food Consumption Units			
i)	2.0 - 3.0	30	26.08
ii)	3.1 - 4.0	33	28.69
iii)	4.1 - 5.0	32	27.82
iv)	5.1 - 6.0	14	12.17
v)	6.1 - 7.0	6	5.21
vi)	7.1 - 8.0	<u>0</u>	<u>0.00</u>
	Total	<u>115</u>	<u>99.99</u>

Mean Family Size : 4.91 members; S.D. = 1.43 members.

Mean Consumption units in a ; 4.03 ; S.D. = 1.18, family

Family type is an important structural variable which has bearing on the present study at least in two distinct ways. First, the upbringing, health care and socialization that a child receives is characteristically different amongst nuclear and joint families. Second, in joint families decision making power gravitates more towards elders in the family vis-a-vis the nuclear families where this power is shared by the couple equitably or otherwise. The study of these trends was essential towards working out our strategies of conducting the health education programme for mothers.

Family size, once again, affects the socialization process for a child in the family. We have also used this data extensively to compute per capita monthly incomes, food consumption units in a family and actual per day consumption of essential food items. In our study, mean family size was found to be 4.91 with a standard deviation of 1.43 members. This is slightly lower than that of mean family size of 5.0 members found in recent study of service areas of Baroda Citizens Council according to Rajyaguru H.M (1988). Earlier, Parikh Y.O. (1982) in his city level study of Baroda slum dwellers has mentioned a mean family size of 4.95 members, closer to this study.

Table 3.2 depicts that there were 15.65% families having 2 or 3 members; 55.65% having 4 or 5 members ; 23.47% having 6 to 7 members and another 5.21% having 8 or 9 members.

In recent years, the concept of food consumption units in a family has been developed to facilitate studies on nutritional status, consumption patterns and measuring standards of living. There are varying ways in which the consumption units are computed by different scholars and researchers. For our purpose, the formula developed by Djurfeldt & Lindberg (1975) for a study of introduction of Western medicine in a Tamilnadu village has been used.

According to the authors, if the age composition of the members of a household are taken into account when measuring consumption patterns, the food consumption units are calculated by counting an adult as one unit and the other members in relation to this as follows :

<u>Age of individual</u>	<u>Counted as</u>
1 - 3 years	1/4 consumption unit
4 - 7 years	1/2 consumption unit
8 - 14 years	3/4 consumption unit
15 - 59 years	1 consumption unit
60 and above	3/4 consumption unit

Applying the above formula, the mean food consumption units per household was found to be 4.03 with a standard deviation of 1.18 Parikh Y.O. (1982) in his earlier referred city level study of Baroda slum dwellers found this mean to be 3.81 per household. Indeed it needs to be mentioned here, that Parikh has based his computations on a different formula. Table 3.2 depicts that there were 26.08% families having 2.0 to 3.0 food consumption units; 28.69% having 3.1 to 4.0; 27.82% having 4.1 to 5.0 ; 12.17% having 5.1 to 6.0; and the remaining 5.21% having 6.1 to 7.0.

3.3 Education, Occupation and Income :

Observations that health and disease are not equally distributed in social classes have been reported for over a century. Individuals in the upper classes have a longer life expectancy, less mortality and better health and nutritional status than those in the lower classes. Secondly, there are startling differences in the utilisation of medical and health services in different social classes. Individuals in the lower social classes have been found to make less use of hospital facilities, consult the doctors less often and are less likely to utilise preventive health services like immunisation, ante natal and post natal care. Or in

short, individuals in lower social classes are less health conscious as compared with those in the upper classes.

Education, occupation and income have been considered to be the most important variables of socio-economic stratification and the three aspects are highly intercorrelated too. Holling-shead in USA developed a scale using education, occupation and the residential address in lieu of income. In India, socio-economic status measuring scales by Kuppuswamy (1976) for urban areas and Pareek and Kulshrestha (1975) for rural and urban areas are better known.

The first mentioned determinant of socio-economic status, namely Education helps individuals in developing values, skills and abilities of various kinds. This in turn affects the performance of their roles as mothers, home-makers and fathers etc.

TABLE : 3.3A

Educational Status of the Adult Males and Females :

Educational	Distribution of Males		Distribution of Females	
	F.	%	F.	%
i) Illiterate	43	29.25	92	68.14
ii) Primary i.e. up to 5th Std.	46	31.29	23	17.03
iii) Secondary i.e. 6th to 9th Std.	41	27.89	11	8.14
iv) Higher Secondary i.e 10th to 12th Std.	17	11.56	8	5.92
v) College or Univer- sity education	0	0.00	1	0.74
Total :	147	99.99	135	99.97

Table 3.3A depicts the educational status of adult males and females in the families studied. In keeping with all India trends educational level of men was much higher than women.

In the first category of illiterates there were 29.25% males and 68.14% females. Correspondingly it is implied that literacy rate for men was 70.75% ; for females - 31.86% ; and the combined literacy level was 51.8%. Rajyaguru H.M. (1988 : 28) in a study of service areas of Baroda Citizens Council has reported literacy rates of men, women and combined as 74%, 36% and 55% respectively. Parikh Y.O. (1982) in a broader city level study of slum reported literacy levels as 73.28% for males, 36.11% as total literacy level of slum dwellers. It can be seen that in the present study literacy levels in each category are slightly lower as compared to both other studies.

In the second category, namely, 'Primary' we included all those adults who had studied upto standard fifth. Accordingly, 31.29% males and 17.03% females were placed here.

The third category of 'Secondary' included 27.89% men and 8.14% women who had received education upto sixth, seventh, eighth or ninth standard.

There were 11.56% men and 5.92% women in the category of 'Higher Secondary' which included those individuals who were educated upto tenth, eleventh or twelfth standard.

Quite interestingly, in the last category 'college or university education' there was 'nil' reporting by men and 0.74% (1 woman) of affirmative response by women. This lady had received two years of college education but not completed degree studies.

Occupational status can be a significant predictor of human behaviour because occupational groups vary widely, in terms of norms and values which either sanction or restrict the level and quality of participation in various activities by individuals in their homes or larger society. In lay terms, we often differentiate between 'blue collared workers' and 'white collared workers' more on the basis of their vastly different life styles.

For instance, a lower division clerk and a skilled or semi skilled industrial worker may have similar incomes (at times the latter may even be better paid) but their living standards are different in many ways because the former hardly ever reside in slums.

TABLE : 3.3B

Occupational Status of Head of Household :

Category of Employment	Disstribution	
	F	%
i) Unemployed	9	7.82
ii) Self-employed	19	16.52
iii) Non-Govt.employee	53	46.08
iv) Govt.employee	<u>34</u>	<u>29.56</u>
	115	99.98

TABLE : 3.3C

Occupational Status of Lady of the Household (LOH)

Employment category	Distribution	
	F	%
i) House-wife	73	63.47
ii) Self-employed	7	6.08
iii) Employed earning	<u>35</u>	<u>30.43</u>
	<u>115</u>	<u>99.98</u>

There are various ways in which occupations are classified. For our purpose in case of men we had four categories, viz. 'unemployed', 'self-employed', 'non-government employee' and 'Government employee'. Corresponding distribution for each of the categories above was 7.82%, 16.52%, 46.08% and 29.56% respectively. In the case of women there were only three categories viz. 'housewife', 'self employed' and 'employed earning'. The placement of women in each category was 63.47%, 6.08% and 30.43% respectively. There were 36.51% women engaged in gainful employment in addition to discharging of their regular housewifely roles. It is surmised that their role performance as mothers would be different than the remaining 63.47% women who were pure housewives.

It is essentially the urban poor who are constrained to live in urban slums. In this study we have selected the parameter of monthly per capita income (PCI) for measuring income levels for two specific reasons. First, monthly PCI gives a clearer picture of an individual's purchasing power or access to consumer, capital or luxury goods, (rather than family income). Secondly, a city level organisation, Baroda Citizens Council (B.C.C) has defined urban poverty in terms of PCI per month. For understanding the economic situation of study families we too have adopted the BCC concept according to which individuals having PCI of Rs.100/- or less per month are placed below poverty line. More specifically about the present study, the mean PCI per month was found to be Rs. 148.35 with a standard deviation of Rs. 77.6. High S.D. value is accepted because there was wide variation between the lowest reported PCI of Rs. 20/- per month and the highest reported being Rs. 440/- per month. According to a BCC report (1988 : 31) mean PCI per month for its service area slum families was found to be Rs. 115/-. This suggests that the economic situation of the study families was considerably higher as compared to their compatriots else where in the city.

TABLE : 3.3D

Per Capita Monthly Incomes

Income Range in Rs.	Distribution	
	F	%
i) 100 or less	32	27.82
ii) 101 to 150	44	38.26
iii) 151 to 200	22	19.13
iv) 201 to 300	11	9.56
v) 301 and above	6	5.21
	115	99.98

Mean per Capita Monthly Income = Rs. 148.35

S.D. = Rs. 77.6

Table 3.3D depicts that there were 27.82% families below 'poverty line' i.e. with PCI of Rs.100/- or less per month; 38.26% families in the second category of Rs. 101/- to 150/-; 19.13% placed in third category of Rs 151/- to 200; 9.56% in the fourth category of Rs. 201/- to Rs.300 and only 5.21% in the fifth category of Rs. 301/- and above. Later tables numbered 3.4 and 3.5 on 'Ownership of household goods, other assets' and 'Indebtedness and saving habits' describe the economic situation further.

3.4 Ownership of Household Goods, other Assets :

The study of this aspect not only lends further insight into the economic situation but it also served another important purpose. This alongwith study of 'housing, access, to public utilities and environment' presented later helped us get a clearer understanding of their life styles which paved way for constructing a 'situation practical' health education programme for mothers of treatment group.

TABLE : 3.4

Ownership of Household Goods, other Assets

A Multiple Response Table

Item	Distribution		
	F	%	N=115
i) House	107	93.00	
ii) Cattle	13	11.30	
iii) Land	25	21.73	
iv) Cycle	82	71.30	
v) Rickshaw and motorised Vehicle	8	6.95	
vi) Furniture	82	77.30	
vii) Radio/Transistor	61	53.04	
viii) Tape Recorder	23	20.00	
ix) T.V. Set	5	4.34	
x) Any other	19	16.52	

Table 3.4, understandably is a multi- response table depicting possession of physical assets. The lived in house was the commonest commodity owned i.e. 93.0% families had their own house. Further, they enjoy a fair sense of security of tenure because their locality, at least at present is in no imminent danger of eviction. Next, popular items were 'cycle' and 'furniture items' like a cot, chairs, a small table etc. Both categories were mentioned by 71.30% families. 53.04% families owned radios or transistors. This was the single most used means of mass media as none of the residents subscribed for newspapers as is typical of slum living 21.73% owned land in their place of origin either as singular or joint owners, 20.0% owned tape recorder and during our data collection many times we heard English pop music in passing.

Cattle i.e. goats in all cases were owned by 11.30% families who used goat milk. Rickshaw and motorised vehicles like mopeds were owned by 6.95%; former as a means of living and the latter as a luxury item. At the time of inquiry 4.34% owned TV sets but during our intervention we witnessed rapid additions of more sets. In 'any other' category, the investigators were instructed to include items like cupboards, clocks, fans etc. As such 16.52% were placed in this category.

3.5 Indebtedness and Savings :

The upper social classes harbour certain common notions about the poor. One, that the poor are invariably in debt. Two, that the unscrupulous money lender takes undue advantage of their hapless situation and "bleeds them white". Three, that the poor as a class lack futuristic vision. Neither do they believe in saving for a "rainy day" nor do they feel the necessity to save for acquiring some assets like a house, vehicle or higher education of children. Four, incapacity of the poor to save - since they spend more than 90% of their income on purchasing food alone, is the other side of the notion "three" stated above. We queried into these aspects to ascertain how far the above ideas were tenable in case of families under study.

TABLE : 3.5

Indebtedness and Savings :

Variable	Distribution	
	F	%
<u>Whether family is in debt ?</u>		
i) Yes	69	60.00
ii) No	46	40.00
Total :	<u>115</u>	<u>100.00</u>

Variable	Distribution	
	F	%
<u>Amount of debt</u>		
i) Less than Rs. 1000/-	23	33.33
ii) Rs 1001/- - 2000/-	11	15.94
iii) Rs. 2001/- - 3000/-	18	26.08
iv) Rs. 3001/- - 4000/-	3	4.34
v) Rs. 4001/- - 5000/-	9	13.04
vi) Above Rs. 5000/-	5	7.24
Sub-total	<u>69</u>	<u>99.97</u>
<u>Sources of debt</u>		
i) Friends and relations	25	36.23
ii) Co-operative societies	14	20.28
iii) Employer	15	21.73
iv) Money-lender	<u>15</u>	<u>21.73</u>
Sub-total	<u>69</u>	<u>99.97</u>
<u>Whether family saves regularly ?</u>		
i) Yes	25	21.73
ii) No	<u>90</u>	<u>78.26</u>
Total :	<u>115</u>	<u>99.99</u>
<u>Apporx., amount saved per month</u>		
i) Rs. 25/- or less	7	28.0
ii) Rs. 26 - 50	9	36.0
iii) Rs. 51 - 75	1	4.0
iv) Rs. 76 - 100	5	20.0
v) Rs. 101 and above	<u>3</u>	<u>12.0</u>
Sub-total	<u>25</u>	<u>100.0</u>

Table 3.5 shows that while 60% families were indebted yet a significant proportion i.e. 40% were free of debt. In the farmer category a large majority i.e. 33.33% had taken "Small loans", of rupees less than 1000 and another 15.94% had dues between rupees 1001 to 2000. 26.08% families had taken medium sized loans of amounts between rupees 2001 to 3000. On the higher side, 4.34% families owed sums between 3001 to 4000; 13.04% between 4001 to 5000; and only 7.24% owed sums more than rupees 5000.

Regarding sources of debt it was found that contrary to the popular belief only 21.73% families took loans from professional money lenders at 10% rate of interest or more. A clear majority of 36.23% sought recourse to friends and relations securing interest free loans in most cases. Another 21.73% were indebted to their employers again on reasonable terms. Some progressive families i.e. 20.28% had formed co-operative societies and got loans at low interest rate of 5%.

In regard of saving habits our sample conformed to popular beliefs since only 21.73% families reported regular monthly savings against 78.26% having none. Table 3.5 shows that amongst the regular savers, a larger proportion saved, relatively speaking, lesser amounts per month. More specifically, 28% saved rupees 25 or less per month and another 36% reported monthly amounts between 26 and 50. There were 4% in the range of 51 to 75; 20% between 76 to 100 and only 12% could save more than rupees 101 per month.

3.6 Housing, Access to Public utilities and Environment

Although the very word "Slum" gives one a fair idea of housing, availability of public utilities and environmental conditions of the resident people, it was thought fit to collect empirical data pertaining to them for two specific reasons.

Firstly, it was on account of the high relatedness of the above stated factors to the physiological, mental and social health of individuals and secondly it provided us a reason for a systematic and detailed observation and understanding of home environment of our future partners in the field experiment.

TABLE : 3.6

Housing, Access to Public utilities and Environment :

Variable	Distribution	
	F	%
<u>Housing area</u>		
i) Less than 250 sq.ft.	80	69.56
ii) 251 - 500 sq.ft.	35	30.43
Total :	<u>115</u>	<u>99.99</u>
<u>Type of Housing</u>		
i) Kutcha	37	32.17
ii) Semi-pucca	55	47.82
iii) Pucca	23	20.50
Total :	<u>115</u>	<u>99.99</u>
<u>Distance of Water tap from Home</u>		
i) 0 - 24 ft.	50	43.47
ii) 25- 49 ft.	31	26.95
iii) 50- 74 ft.	12	10.43
iv) 75- 99 ft.	9	7.82
v) 100- 124 ft.	13	11.30
Total :	<u>115</u>	<u>99.97</u>

Variable	Distribution	
	F	%
<u>Electricity Connection</u>		
i) Taken	65	56.52
ii) Not taken	<u>50</u>	<u>43.47</u>
Total :	<u>115</u>	<u>99.99</u>
<u>Latrines</u>		
i) Private	5	4.34
ii) Fields/Open grounds	<u>110</u>	<u>95.65</u>
Total :	<u>115</u>	<u>99.99</u>
<u>Drainage</u>		
i) Available	8	6.95
ii) Not available	<u>107</u>	<u>93.04</u>
Total :	<u>115</u>	<u>99.99</u>
<u>Garbage disposal Service</u>		
i) Available	10	8.69
ii) Not available	<u>105</u>	<u>91.30</u>
Total :	<u>115</u>	<u>99.99</u>
<u>Ventillation</u>		
i) Poor	50	43.47
ii) Fair	50	43.47
iii) Good	<u>15</u>	<u>13.04</u>
Total :	<u>115</u>	<u>99.98</u>

Variable	Distribution	
	F	%
<u>Surroundings</u>		
i) Poor	33	28.69
ii) Fair	54	46.95
iii) Good	<u>28</u>	<u>24.34</u>
Total :	<u>115</u>	<u>99.98</u>

As shown in table 3.6, it was found that 69.56% homes were over crowded having housing area of less than 250 square feet while the remaining 30.43% families occupied area in the range of 251 to 500 square feet. Regarding type of housing, it was interesting to note that a majority dwelt in semi-pucca 47.82% or pucca - 20.50% type of accomodation. Only 32.17% families lived in kutchha houses.

Availability of protected water supply within a reasonable distance from residence is a luxury enjoyed by only some slum dwellers in Baroda city. Amongst the study families it was found that a large proportion i.e. 43.47% families had water tap within 24 ft. from their house; 26.95% had between 25 to 49 ft., 10.43% families had between 50 to 74 ft., 7.82% had between 75 to 99 ft. and 11.30% had it between 100 to 124 ft. However, it must be recorded that due to overall water shortage in the city since few years the study families got supply only twice during a day for half an hour each time. This produced considerable strain on the women. To a certain extent we too were constrained by the water timings while scheduling the various health interventions for children as well as mothers. Domestic electricity connections were taken by 56.52% families while the remaining 43.47% did without electricity in their homes.

The data on latrines, drainage facility and garbage disposal service, pass a sad commentary on lack of hygiene and sanitation. A whopping 95.65% families had to use open grounds as latrines; (in absence of privately or publicly owned latrines) health hazards posed by which need no elaboration. Only 4.34% families had privately owned but dry sanitation type (without water seal) of latrines. Drainage in the immediate surroundings was available to only 6.95% families whereas 93.04% families went without it. Similarly garbage disposal service from the municipal corporation was available to only 8.69% while a majority i.e. 91.30% had to do without it.

Regarding ventilation it was observed that 43.47% homes were poor; another 43.47% homes were fair; and 13.04% had good facility. Observations on cleanliness of the surroundings were encouraging in that only 28.69% could be rated as "poor". A majority of 46.95% homes had fairly clean surroundings while the rest 24.34% could be placed in "good" category.

3.7 Daily Diet Patterns and Per capita Intake of Essential Foods Per Day

Nutritional assessment of children and a follow-up health education to mothers was greatly enhanced by a diet survey. The exercise was meant to provide information about the types and amounts of foods consumed by target people. The findings were then compared against recommended nutritional standards to spot deficiencies or faulty practices, if any, for corrective education later.

Table 3.7A presents quantitative analysis of dietary patterns and is supplemented in its explanation by some additional observations for qualitative presentation.

Table 3.7B presents per capita consumption of essential foods matched against recommended dietary intakes for Indians as per ICMR (1981) report.

Several methods of diet surveys were considered for their virtual merits and demerits in the context of the given slum setting and resources at hand, both technical and financial. Finally, recall method of 48 hours was chosen for our purpose. The principle involved here is that the subject, or the homemaker in this case was asked to recall the types and amounts of food which had been eaten by the family during the past 48 hours. For assessment of quantities of food consumption the respondent was also asked to furnish data on monthly requirements of grains, pulses, vegetables, oils, sugar etc. Since the target families have extremely simple food habits, the respondents did not face much difficulty in recall. The investigators were indeed instructed clearly to inquire into this area after adequate rapport establishment during the length of the interview.

TABLE : 3.7A

Daily Diet Patterns :

Class of Information	Distribution	
	F	%
<u>Morning Tea</u>		
i) No morning tea	18	15.65
ii) Only morning tea	47	40.86
iii) Roti with morning tea	33	28.69
iv) Bread or biscuits with morning tea.	17	14.78
Total :	<u>115</u>	<u>99.98</u>
<u>Lunch</u>		
i) Yes	115	100.00
ii) No	<u>0</u>	<u>0.00</u>
Total :	<u>115</u>	<u>100.00</u>

Class of Information	Distribution	
	F	%
<u>Evening Tea</u>		
i) No evening tea	89	77.39
ii) Only evening tea	26	22.60
iii) Snacks with evening tea	<u>0</u>	<u>0.00</u>
Total :	<u>115</u>	<u>99.99</u>
<u>Dinner</u>		
i) Yes	115	100.00
ii) No	<u>0</u>	<u>0.00</u>
Total :	<u>115</u>	<u>100.00</u>

Table 3.7A depicts some startling facts. All families have only two meals a day. Although there were wide variations in timings of the first and second meal, in most cases there was a long gap of about 8 to 10 hours in between. This runs counter to the medical advice of not keeping more than 4 hours gap between two consecutive meals and secondly that one should take three meals during a day.

Breakfast was dispensed with by 56.53% families and only 43.47% had it in form of left over 'roti' with tea - 28.69% or bread/biscuit with tea - 14.78%. A bulk i.e. 40.86% had only morning tea while 15.65% had nothing at all.

Lunch and dinner were taken universally. During the recall of 48 hours food intake a general pattern emerged in which lunch consisted of 'roti' with a curried vegetable and dinner comprised either of 'khichadi' or rice 'n dal at times accompanied by a vegetable. Of the vegetables reported commonest ones were potatoes, brinjals, cauliflower, tuwar (legume),

tomatoes etc. The former two are relatively cheaper perennials while the latter were seasonal vegetables. Greens or leafy vegetables were conspicuous by their absence and same was true of milk products like curds or 'chaas'. None reported 'salads' and fruit. The reason for non-consumption of leafy vegetables usually given was that "on cooking they reduce in bulk and fall short". However on special occasions they do use fenugreek greens or 'Methi' in combination with pulses or cereals like 'bajra' to make snacks. There was marginal reporting of non-vegetarian foods like mutton or eggs. Here, low consumption was more due to economic reasons than cultural factors.

Few families i.e. 9.4% with a little hesitation revealed that they have to beg every night for their dinner. As such they eat what they get.

Evening tea could be afforded by only 22.6% and the rest 77.30% did without it. None reported light snacks with evening tea.

TABLE : 3.7B

Mean Intake of Essential Food Items Per Day.

Food Item	ICMR(1981) recommended per capita daily Intake (I) (gms)	Daily Mean Intake			
		Per Capita (II)		Per consumption unit (III)	
		Mean (gms)	S.D. (gms)	Mean (gms)	S.D. (gms)
Milk	175	52.36	18.67	63.66	18.67
Rice	} Cereals =500	200.67	7.76	243.41	7.76
Atta*		235.25	8.89	261.45	8.89
Pulses	35	25.64	1.65	31.18	1.65
Vegetables	Roots :55	102.71	4.53	130.64	4.53
	Leafy :80				
	Others:45				
	Total :180				
Sugar	30	30.61	2.09	37.22	2.09
Oils/fats	35	24.22	1.40	29.45	1.40

*Wheat flour in most cases. Occasionally bajra & other varieties of cereals were reported.

Table 3.7B depicts nutritional gap at a glance with column I presenting ICMR (1981) recommendations for daily per capita food intake. While column II presents quantities consumed by a mean person in the community regardless of age, sex and type of work routine, column III gives a more objective view as it speaks of a standardized consumption unit in each household. For the present purposes, a standard person or consumer unit was defined by using Djurfeldt and Lindberg's method (explained in details under section 3.2 in this ch.)

It is clearly evident from table 3.7B that except for milk and vegetables, daily food intake per consumption unit (refer column III) lies in close vicinity of specified quantities in column I while the data in column II presenting non-converted per capita levels projects a falsified nutritional gap pertaining to cereals and pulses as well - hence the importance of applying concept of consumption units per household. The belief that the urban poor suffer a protein gap has been proven to be a myth by Parikh Y.O. (1982).

Regarding milk consumption our experience during pilot testing needs to be mentioned. Unaware of existing reality, we had a direct question on daily milk consumption in terms of 'grams'. But on number of occasions we got answers in terms of Rs. 1,2 or even 50 Paise etc. implying that they bought small quantities as and when required from vendors living in the neighbourhood. Unlike upper classes, they did not have a fixed delivery made to them everyday. Later during data collection, the investigators were instructed to modify their approach suitably in order to get realistic values.

In a study of Health status of 700 slum families of Baroda, Argade S.C. (1987) also reports a wide nutritional gap of milk and milk products. As the study does not present mean consumption values, a direct comparison with present data is not possible.

Regarding vegetables, it has already been reported earlier in this section, that their diet is grossly deficient of leafy vegetables since they were not mentioned at all during recall of 48 hours of food intake by any of the families. They exhibit greater preference for the cheaper potatoes, brinjals or seasonal vegetables which do not shrink in volume after cooking.

However, the overall picture seems to be less alarming when contrasted against data for urban Gujarat according to which 53% households lie below recommended level - Economic and Political Weekly (1979). In absolute terms, there were, indeed several deficient areas and practices, which warranted corrective educational programme.

The on-going discussion of consumption levels of standardised units, per capita levels and ICMR recommendations would be incomplete without mentioning the well known and strong criticism levelled by Professor Sukhatme of the underlying methodology attempted by various authors. According to him, the recommended nutritional requirement is an average and not the minimum required for regular functioning of the metabolic system. Further, he says that the metabolic system of a body collapses when the calorie intake falls short of the minimum and not the average requirement. Therefore, use of average calorie requirement as the criterion for classifying a person as undernourished or poor can't be justified. This theory extends the nutritional status of study families to some extent.

3.8 Incidence of Pregnancy wastage and Mortality of Underfives

Incidence of pregnancy wastage viz. miscarriages, abortions or still births and mortality of underfives, particularly amongst infants are some of the most eloquent indicators of development (Perhaps that is why the statistical appendix attached to UNICEF Annual Report, 1984, lists the countries of the world not in the ascending order of their gross national products but in descending order of their I.M.R.). That is so because the statistics under discussion have as much to say about the quality of children's lives as about the number of their deaths.

Under the present study, we inquired into occurrence of any miscarriage, abortion or still-birth at any point in family history; age and sex of the child in case of death of an underfive and also the causes. Since precise data regarding cause of death was not available in all cases, the information has been excluded from tabular presentation.

TABLE : 3.8

Incidence of Pregnancy Wastage and Underfives' Mortality

Variable	Distribution	
	F	%
<u>Reported Pregnancy Wastage</u>	17	14.78
<u>Reported Underfives' Mortality</u>	45	39.13
<u>Duel Incidence of Pregnancy Wastage and Underfives' Mortality.</u>	3	2.60
<u>Nil Incidence of Pregnancy Wastage and Underfives' Mortality.</u>	50	43.47
Total :	<u>115</u>	<u>99.98</u>

Age at death in case of underfives only

i)	0 - 1 year	46	69.69
ii)	1 ⁺ - 5 years	<u>20</u>	<u>30.30</u>
	Sub-Total :	<u>66</u>	<u>99.99</u>

Sex of underfives who died

i)	Male	38	57.57
ii)	Female	<u>28</u>	<u>42.42</u>
	Total :	<u>66</u>	<u>99.99</u>

Less than half i.e. 43.47% families exhibited a healthy trend with 'nil' incidence of pregnancy wastage or underfives' mortality. By implication, every second family had experienced loss of one kind or the other. More specifically, 14.78% reported pregnancy wastage, 39.13% reported underfives' mortality; and 2.60% families reported mishaps of both types. Regarding age at death, it was found that of the total occurrence of 66 underfives' deaths, a majority i.e. 69.69% succumbed below one year while the rest 30.30% died between one to five years. This clearly projects vulnerability of infants below one year. A reverse trend was observed regarding 'sex' of underfives who died. More male children i.e. 57.57% as compared to 42.42% of female children lost their lives. As for causes of death, though precise data was not available in all cases, the commonest reasons given were diarrhoea, fever and mother's illness etc. Research studies in developing nations have shown diarrhoea and respiratory infections, mostly pneumonias to be killer childhood diseases ranking first and second respectively - UNICEF Annual Report (1984).

3.9 Utilization of Ante-natal, Natal, Post-natal and Family Planning Services

Utilization of services favourably affecting health of underfives comes as a natural sequel to the discussion of their quality of life (expressed by certain indicators) in the previous section. Developing societies, usually exhibit low levels of utilization of health or other developmental service. (In overall terms, this was found true in present study also) This has often been attributed first, to paucity, of resources and second to lack of awareness amongst beneficiaries about services, It is also said that the poor do not value health as an asset and therefore their efforts in maintaining it are at best half-hearted. What is not commonly known is the fact that the capacity of the poor to utilize services, despite awareness and access

to them (services) is depressed due to poverty conditions. Chow N.W. (1984) puts this succinctly in saying that persistent conditions of poverty produce certain incompetencies and a sense of deprivation which further debilitate the poor. Such a handicapped start in life reduces their abilities to benefit from available opportunities or make fullest use of developmental services and make attempts to lift themselves above the prevailing misery.

TABLE : 3.9

Utilization of Ante-natal, Natal, Post-natal and Family Planning Services

Variable	Distribution	
	F	%
* <u>Regular Periodic visits for ante-natal care and advice</u>		
i) Yes	5	4.34
ii) No	108	93.91
iii) N.A.	<u>2</u>	<u>1.73</u>
Total :	<u>115</u>	<u>99.98</u>

Whether Vitamins and Iron supplements were taken

i) Yes	74	64.34
ii) No	39	33.91
iii) N.A.	<u>2</u>	<u>1.73</u>
Total :	<u>115</u>	<u>99.98</u>

Variable	Distribution	
	F	%
<u>Whether Tetanus Toxoid injection was taken</u>		
i) Yes	59	51.30
ii) No	54	46.95
iii) N.A.	<u>2</u>	<u>1.73</u>
Total :	<u>115</u>	<u>99.98</u>
<u>** Place of delivery</u>		
i) Home (without trained attendance)	138	43.39
ii) Hospital (trained attendance utilized)	180	56.60
Total :	<u>318</u>	<u>99.99</u>
<u>Six week post-natal examination of mother & child</u>		
i) Aailed	9	7.82
ii) Not aailed	104	90.43
iii) N.A.	<u>2</u>	<u>1.73</u>
Total :	<u>115</u>	<u>99.98</u>
<u>Post-natal Professional advice regarding</u>		
i) Colostrum		
Utilised	67	58.26
Not Utilised	46	40.00
N.A.	<u>2</u>	<u>1.73</u>
Total :	<u>115</u>	<u>99.99</u>

Variable	Distribution	
	F	%
ii) Nutritious diet		
Utilised	78	67.82
Not utilised	35	30.43
N.A.	<u>2</u>	<u>1.73</u>
Total :	<u>115</u>	<u>99.98</u>
iii) Family Planning		
Utilised	65	56.52
Not Utilised	48	41.73
N.A.	<u>2</u>	<u>1.73</u>
Total :	<u>115</u>	<u>99.98</u>
<u>Measures of contraception</u>		
i) No permanent measure	48	41.73
ii) Permanent measure		
Tubectomy	41	35.65
Vasectomy	23	20.00
Sterilisation by both spouses	1	0.86
iii) N.A.	<u>2</u>	<u>1.73</u>
Total :	<u>115</u>	<u>99.97</u>

* Periodic visits implied at least two check-ups during each tri-mester

** Response recorded for only last three children in each family.

About the study sample Table 3.9 presents that only 4.34% women had availed of regular ante-natal check up as against 93.91% who had not; while 1.73% were sterility or 'not applicable' cases. Here, regular periodicity was defined as at least two check-ups in each tri-mester. The primary aim of ante-natal care is to achieve at the end of pregnancy a healthy mother and a healthy baby. Most women in present study sought medical advice only in the last three months or the advanced stage of pregnancy. This perhaps explains why utilization levels of Iron supplements, vitamins and Tetanus Toxoid were somewhat better. While 64.34% had taken vitamins and Iron supplements, 33.91% responded in negative and 1.73% were 'n.a.' cases. Regarding Tetanus Toxoid injection 51.30% responded in affirmative; 46.95% in negative, 1.73% being 'n.a.' cases.

Next aspect considered was that of trained attendance at delivery (a natal service). The women were asked to furnish data pertaining to last three or less (in case of lesser children) children born to them. Of the total such 318 births, 43.39% were home deliveries i.e. without trained attendance (they were also asked if any trained dai etc. was present at home delivery. All responded in negative) and 56.60% were hospital deliveries where professional help was utilized which ensured delivery with minimum injury to the infant and mother; thorough asepsis; and competent expertise to deal with various natal complications Park J.E & Park K. (1979 : 426).

About the customary six-week post-natal examination of mother and child, the figures once again are depressing. Only 7.82% had consulted physicians within six -weeks of delivery and that too because the child developed some serious health problem. It is surprising that despite more than half the births having occurred at hospitals, 90.43% women did not go back for post natal check up.

In Indian setting, colostrum or breast-secretion within 48 hours of child birth is considered impure and discarded. On the brighter side, it was found that 58.26% women had followed medical advice of giving colostrum to the new born child. Of the remaining women, 40% discarded it (colostrum) while 1.73% were 'n.a.' cases. Children deprived of colostrum are in effect deprived of protein rich nutrients and protective anti bodies providing life-long immunity of certain types.

67.82% women reported having adhered to professional advice regarding post-partum nutritious diet for health of mother and child. 30.43% replied in negative and 1.73% were 'n.a.' cases.

Professional advice for spacing births or sterilisation was utilized by 56.52% women while 41.73% utilized neither of the two (services). 1.73% were 'n.a.' cases. Further query into (permanent only) measures of contraception revealed that a large number i.e. 41.73% couples had not undergone either spouse sterilisation. Tubectomy (Female sterilisation) was greatly favoured over vasectomy (Male sterilisation) the statistics being 35.65% and 30.3% respectively. This is despite the fact that vasectomy is much simpler an operation than tubectomy. Could the higher rate of female sterilisations vis-a-vis male sterilisation then be a pointer to low status of women ? There was a unique couple or 0.86% of the sample who reported sterilisation of both husband and wife and the rest i.e. 1.75% were 'n.a.' cases.

Age at Weaning

The weaning period is the most crucial period in child development. But what does weaning mean ? It means not sudden withdrawal of child from the breast. It is a gradual process starting around the age of 4 to 6 months because breast-milk alone is not sufficient to

sustain growth beyond 6 months. It should be supplemented by suitable foods which are rich in nutrients and also easily digestible. In the Indian context soft cooked rice with dal, 'khichadi', rice water, boiled vegetables, half boiled egg, mashed banana, fruit juice, cow's milk etc. can be given.

If weaning is not carried out at the recommended age with recommended foods, the infant may fall prey to the vicious circle of mal-nutrition, infections and growth-faltering. In fact this is happening to millions of children in the world. The mal-nutritioned children contract diarrhoea and prolonged spells of growth faltering follow.

TABLE : 3.10

Age at Weaning Practice

	Weaning Age in months	Distribution	
		F	%
i)	4 - 6	12	10.43
ii)	7 - 9	30	26.08
iii)	10 - 14	52	45.21
iv)	15 - 19	10	-8.86
v)	20 - 24	11	-9.56
vi)	25 and above	<u>0</u>	<u>-0.00</u>
	Total :	<u>115</u>	<u>99.97</u>

Mean age at weaning = 11.3 months

S.D. = 2.3 months

Modal class of weaning practice = 10 to 14 months.

Of Indian poverty groups, it is believed that weaning is done most un-scientifically. Therefore, it was decided to collect facts at the local community level which could serve as apt illustrations during the health education programme later. Table 3.10 reveals grossly incorrect weaning practices amongst the study sample. Only 10.43% could be credited for initiating weaning at the correct age group of 4 to 6 months. 26.08% can be termed as 'moderately late starters' having begun weaning when the child was 7 to 9 months old. 45.21% formed the modal class where the child was in the age group of 10 - 14 months when weaning began. Amongst the 'severely late starters' 8.69% began weaning when the child was 15 to 19 months old; and another 9.56% delayed weaning till the child was 20 to 24 months old.

Mean age at weaning was found to be quite high at 11.3 months with a standard deviation of 2.3 months.

The most popular weaning foods were 'rice'n dal' or 'khichadi'. Many families give 'roti' and 'dal' or whatever is cooked for the family. Specially suitable weaning food was reported to be glucose biscuits (?). Few women prepared 'dal soup', 'rice-water', or fruit juice for infants. Top-milk i.e. supplementary skimmed buffalo milk or cow's milk was given by only a small minority. One young mother had been giving 'Bournvita' to the infant at the time of data collection.

Motor and Mental Developmental Testing of Children between 0 - 30 months.

Originally, under present study it was also intended to identify hidden disabilities amongst 0 - 30 month olds for organising appropriate health interventions towards improvement in their condition. Accordingly, Bailey's motor and mental developmental testing scale which has

been standardised for Indian children by Dr. Pramila Phatak, Department of Child Development, Faculty of Home Science, M.S. University of Baroda was also included in the baseline survey. Prior to data collection, the investigators were sent for training in administration of the scale to Infant Testing Centre, Faculty of Home Science, M.S University of Baroda. However, not a single case of disability amongst 0 - 30 months old children could be identified in the slum under study. This is understandable in the background knowledge that in a study of childhood disability conducted by Baroda citizen's Council and UNICEF only 65 children in the said age group were identified from July 1983 to June 1986 in 325 slums under investigation. In other words, only 1 child from every fifth slum suffered such hidden disability. As such subsequent health interventions in our project got circumvented.