Baseline Study for Vision Healthy India Project : Fight against the Silent Emergency in Delhi

Final Report

Submitted by :

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Submitted to :

Save the Children

Save the Children
Bal Raksha Bharat, Plot No. 91,
Sector-44, Gurgaon - 122003,
India

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EXECUTIVE SUMMARY

Child malnutrition is a key cause for over two-fifth of all under five mortalities in India. Children living in metropolitan slums are at even more risk of different under-nutrition states like stunting, wasting etc. Identifying this challenge of poor nutrition levels among infants, children and mothers in **"Bhanwar Singh Camp" of Vasant Vihar, Delhi**, Save the children has proposed to implement a project called 'Vision Healthy India – Fight Against the Silent Emergency" involving an integrated package of multi-sectoral interventions related to WASH, early childhood development and maternal, new-born and child health.

A baseline study was undertaken to set benchmarks of measurable output and outcome indicators at the beginning of the project. These indicators would be monitored at regular intervals so as to not only gauge the extent of progress and impacts at different stages but also to identify the underlying gaps. This report is the outcome of the baseline study conducted in Bhanwar Singh Camp in November, 2020.

Brief Methodology:

For this baseline survey, a **mixed methods approach** involving both quantitative and qualitative data collection was adopted. The quantitative data was collected by conducting **face to face interviews with mothers of 6-59 months old children, pregnant women and lactating women using a semi-structured questionnaire.** Qualitative data was captured by **in-depth interviews** with frontline workers like ASHAs, AWWs, and executive engineer of Delhi Jal board and **focus group discussions** with community members**.**

A cross-sectional research design was adopted for quantitative data collection. After a detailed house-listing exercise of the area, 217 mothers, 32 pregnant women and 18 lactating women were sampled for the survey. At the end, **184 mothers, 23 pregnant women and 15 lactating women were interviewed. Anthropometric measurements of 232 under five children and 20 pregnant women were also taken** during data collection.

Key Findings:

The semi-structured questionnaire was designed to capture the current nutritional status of under five children, pregnant and lactating women, infant and young child feeding practices,

availability, accessibility and quality of current WASH services in the target area. A snapshot of the major findings of the study is given below.

Household Profile

The questionnaire contained a section on household and respondent profile to understand the socio-economic background and living conditions of all the 222 respondents.

- More than half of the households (60%) in this slum area belonged to scheduled caste and the mean family size was 5.7
- **Major occupation** or source of income in these households were **salaried employees in the private sector (60%).** These jobs under private sector included gardeners, helpers in shops/restaurants, guards, peons in offices etc. which earned very meagre income for their families.
- The median number of years of education/schooling for the highest qualified member of the households were found to be 10.
- **Nearly every household used clean fuel (LPG – 98%) for cooking.**

Respondent Profile

The age of the respondents at various milestones in life and their educational status were collected to understand how these factors affect the child nutrition practices.

- Mean age of respondents was 27.6 and most of them were below 26 years.
- The mean age at first marriage and at first pregnancy was calculated to be 19.8 years and 22.1 years respectively.
- Mean number of children per women was found to be 2.4
- One-fifth of all the women interviewed (20%) had no formal schooling.

Ante-natal Care Services

To assess the accessibility and coverage of ANC services and to understand the nature of services provided by health workers, pregnant women and lactating women were queried to recall details about the ANC visits they had during their pregnancy term. The following are the key findings.

- A high proportion of **pregnant women (83%)** and **lactating women (80%)** reported receipt of **ANC check-up in the first trimester** of **t**heir pregnancy.
- Although around **half of pregnant women** in 2nd and 3rd trimester (44%) and **lactating women (53%) had received 100 or more IFA tablets**, only a little more than one-fourth of these pregnant women (28%) and one-fifth of lactating women (20%) had consumed 100 or more of IFA tablets.

- Around **17 percent pregnant women and 7 percent lactating women** in the study sample had **taken at least 180 calcium tablets** during pregnancy.
- Only a meagre proportion of 11 percent pregnant women had consumed deworming tablets. None of the lactating women had consumed them.
- 90 percent of pregnant and lactating women had received TT injection during pregnancy.
- The data showed very low share, just **20%, of lactating women who received full ANC (24%).**

Infant and Young Children Feeding Practices

Infant and young child feeding practices is a collection of various practices adopted by mothers that contribute to the nutritional status of children. Mothers were enquired about their awareness about right feeding practices, current and past breastfeeding, food items fed to the child on the previous day etc. to identify areas that require interventions. The key findings related to this component are given below.

- Even though the proportion of women ever breastfed was very high in the sample (99%), only **33 percent of 0-23 months old infants children were initiated with early breastfeeding**.
- The survey found that **60 percent of infants aged 0-5 months were exclusively breastfed** for 6 months.
- More than two-thirds of mothers (71%) with infants aged 6-8 months had started introducing complementary feeding after 6 months.
- Extended breastfeeding at 1 year of age (83%) was more common than continued breastfeeding at 2 years (74%).
- **47 percent children aged 6-23 months had the prescribed minimum dietary diversity, 76 percent had minimum meal frequency and 33 percent had minimum acceptable diet.**

Maternal and Child Health and Nutrition

This section discusses maternal nutritional practices, changes in diet and routine activities during pregnancy, post-partum supplementation, vaccination of children and the effect of Covid-19 on accessibility of various services and household nutrition. Presented below are the key findings of this chapter.

- Proportion of women in the reproductive age with **minimum dietary diversity was low, at 38%.**

- Survey found that around half of these women consumed iron rich foods the previous day of survey.
- Sixty percentage of the lactating women in the study sample had taken IFA supplementation in the past 6 months. Average consumption stood at 37 tablets.
- Similarly, 60 percent of lactating women also had consumed calcium tablets in the post-partum period. Mean number of tablets consumed was found to be 40.
- A good proportion of more than three-fourth (76%) of the children in this slum were fully immunized.
- A little less than one-third of the children only had vitamin A supplementation.
- Almost half of the mothers (45%) stated having faced some difficulties related to child healthcare services during Covid-19 pandemic.
- During Covid-19 pandemic, about two-thirds of the households (65%) could not afford food items like pre-covid times.

Water, Sanitation and Hygiene

Along with nutrition, WASH practices also greatly affect the nutritional status and early childhood development in children. This study reviewed availability of water, quality issues related to water supply, defecation, sanitation and hygiene related practices followed in the households etc. The key findings are summarised below.

- The survey found that 85 percent women were aware about at least five ways to prevent sickness.
- While, **around 60 percent population used safe drinking water source, another 39 percent relied on unimproved sources** which included bottled water and tanker water.
- A very low proportion of less than one-fifth of these households (18%) in the sample had used some methods to treat water before use.
- A little over 15 percent households experienced water quality issues and half of them complained of bad taste in the drinking water.
- A good proportion of 80 percent women hand-washed at least 4 critical times
- **Majority of the households use shared community toilet facility** (64%) and an alarming proportion of 9 percent households still practice open defecation calling for immediate actions/interventions. Remaining households had their own toilets constructed.

- About three fourth of women who had been to a community toilet said they had never seen a soap there.
- A very large proportion (95%) of households practicing open defecation said that they leave the faeces as it is out in the open.
- A large majority of the respondents (81%) mentioned lack of toilet in the house as the reason for continuing open defecation.
- Only around 60 percent women used safe stool (youngest child's) disposal methods.

Anthropometry

Anthropometric measurements like height/length, weight, mid-upper arm circumference were collected to identify under five children and pregnant women with various malnutrition states which will help in planning appropriate interventions.

- A little less than a fourth of under five children in this population were found to be stunted, 10 percent were wasted and 21 percent were underweight.
- Only 2 percent of the children aged 6-59 months had severe acute malnutrition, where as 10 percent children were found to have moderate acute malnutrition.
- The proportion of undernourished pregnant women in the sample was found to be 35 percent by using MUAC measurements.

Overall, study findings reflect that WASH is an integral area which requires considerable focus in the form of technical support from authorities and through behavioural change interventions in order to inculcate safe and improved practices in the community. On the realm of maternal and child health, while access to services was found to be satisfactory, there is dire need to focus on the supply and intake of requisite supplements. Mothers reflected desirable knowledge about breastfeeding and infant and young child nutrition suggesting there is no exigency to focus on creating awareness, instead efforts shall be made in stimulating and translating the existing knowledge into recommended dietary practices. Added emphasis also need to be given to maternal nutrition. The support extended by frontline workers in all these aspects also requires strengthening through program activities

It is hoped that the findings and insights presented in the report would serve as strategic inputs for designing the approach towards intended intervention; to meet the desired objectives of overall development of the slum community in health, nutrition and sanitation.

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INTRODUCTION

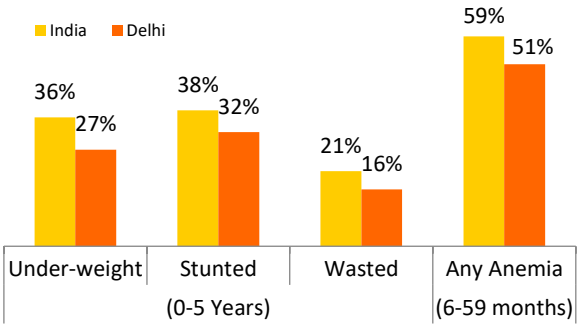
CHAPTER 1

1.1 BACKGROUND

Children are the future of any country. Acknowledging this fact, India's National Policy for Children (1974) declared children as "nation's supremely important assets". However, even till today the country continues to be home to an alarmingly high proportion of malnourished children. As per the National Family Health Survey (NFHS-4), over one-third (36%) of children under 5 years of age are underweight (too thin for their age), nearly two-fifth (38%) are stunted (too short for their age), and one-fifth (21%) are wasted (too thin for their height). Besides, nearly three-fifth children aged 6-59 months are anaemic having haemoglobin levels below 11.0 g/dl. The Global Nutrition Report 2018 estimated the number of stunted children in India at 46.6 million, which is nearly one-third of all the stunted children worldwide.

Malnutrition is a key cause for over two-fifth of all under-5 mortalities in India. It exposes children to greater risk of dying from infections, increases their frequency and severity, and delays recovery. Poor nutrition in the first 1,000 days of a child's life can also lead to stunted growth, which is irreversible and associated with impaired cognitive ability and reduced school & work performance.

Fig 1.1 Extent of Child Malnutrition (Source : NFHS-4)



The nutritional status of children in the national capital region of Delhi is not too far behind the national figures. Here, the metropolitan areas are dotted with urban slums and unauthorized colonies that are home to about a half (49%) of its total population. Of these, the most vulnerable are the children; especially new-borns and infants (0-36 months) whose health depends entirely on the availability of mother to breastfeed, the ability of caretaker and household to provide nutritious meals, the quality of public healthcare system and the overall community support. Here, even as the IMR is at a high of 35, only 30% children under-3 are breastfed within one hour of birth, against the national average of 41%. Children aged 6-23 months who receive adequate diet are only a shocking 5.6%, and only half of children below 6 months are exclusively breastfed, which is much lower than the national average of 55%.

The prevalence of malnutrition has been recognized as a key factor that can impact not only the health and well-being of future generations but also the overall economic progress of the entire nation. Accordingly, ending all forms of malnutrition globally has been included by the United Nations as one of its Sustainable Development Goals (SDGs) to be achieved by year 2030.

1.1.1 Key Determinants of Child Malnutrition

The *Urban Hungama Survey*-2014 reported the following key drivers of stunting among children living across the urban slums of 10 most populous cities of India:

Table 1.1 Key Determinants of Child Malnutrition

Direct Determinants	Indirect Determinants
▪ Poor infant and young child feeding practices ▪ Poor quality of dietary intake (meals low in quantity, nutrient density or variety, or eaten infrequently) ▪ Inadequate care of vulnerable members (e.g. 'unfair' sharing of food within families) ▪ Lack of government service delivery centres ▪ Disease (HIV/AIDS, diarrhoea, respiratory tract or ear infections, measles, hookworms and other gut parasites)	▪ Household poverty leading to food insecurity ▪ Inadequate childcare practices ▪ Low maternal education ▪ Nutritional status of mother ▪ Poor access to health services ▪ Lack of access to clean drinking water & sanitation ▪ Poor sanitation and hygiene practices ▪ Lack of information, political & economic insecurity ▪ Lack of resources and gender inequity

The findings from the said survey are also supported by Lancet which stated that "*Nutrition interventions are not sufficient to tackle the problem of under nutrition: even at 90 percent coverage the core set of proven nutrition interventions in high nutrition burden countries would only decrease stunting by 20 percent globally*" (Lancet series 2013). Thus, reducing and ultimately eliminating the burden of malnutrition among children in urban slums requires a multi-sectoral approach involving interventions across at least the nutrition and WASH sectors.

1.2 THE PROPOSED INTERVENTION: VISION HEALTHY INDIA – FIGHT AGAINST THE SILENT EMERGENCY

Acknowledging the need for WASH infrastructure in urban slums of Delhi, the Save the Children (SC) has implemented a targeted project in the **"Bhanwar Singh Camp"** slum of Vasant Vihar, New Delhi. Here, the SC collaborated with Delhi Urban Shelter Improvement

Board (DUSIB), Govt. of Delhi to build a Community Managed Toilet (CMT) Complex. Under the same, the following activities are taken up on an on-going basis towards making the CMT infrastructure self-sustainable and functional with the support and contribution of the community:

- Formation and capacity building of CMT user groups
- Engaging with community groups and mother groups for use of WASH facilities
- Capacity building and handholding support of self-help groups for income generation

Now, even after attaining sustainability of operations under the said project, **the key challenge of poor nutrition levels among infants, children and mothers in this slum remains unaddressed**. Therefore, to address this lacuna, the SC has proposed to implement another project titled "Vision Healthy India – Fight Against the Silent Emergency" involving an integrated package of multi-sectoral interventions related to not just WASH and nutrition but also early childhood development (ECD) and maternal, new-born and child health (MNCH).

Package of Interventions under Proposed Project – Vision Healthy India (VHI)	
(A) EARLY CHILDHOOD DEVELOPMENT (ECD)	**(B) WATER, SANITATION & HYGIENE**
▪ Protected, safe and sanitary child friendly spaces for early childhood stimulation, exploration and play ▪ Hygiene for baby/ child (regular bathing, hand washing, sanitary play and mouthing/ teething objects ▪ Clean and protected eating spaces for babies and young children	▪ WASH in health /nutrition care facilities ▪ Clean hands at key times ▪ Access to adequate, safe drinking water supply ▪ Consistent sanitary toilet usage & proper disposal of faeces (children and animal) ▪ Personal and household hygiene practices
(C) NUTRITION	**(D) MATERNAL, NEWBORN & CHILD HEALTH**
▪ Promotion of appropriate IYCF practices ▪ Demonstration and counselling on home augmented appropriate complementary feeding with dietary diversity ▪ Safe food handling and protected eating spaces ▪ Nutrition Child Care Sessions (NCCS) ▪ Treated drinking water > 6 months ▪ Freshly cooked, diverse and nutritious foods	▪ Capacity building of frontline health workers on counselling skills of WASH and nutrition services ▪ Counselling and sensitization of pregnant and lactating mothers on their health and nutrition issues, child survival, growth and development

The VHI Project is proposed to be implemented with the overarching goal to decrease the burden of child under-nutrition through both preventive and curative measures while improving coverage of essential nutrition and WASH interventions in the chosen slum community. Its intended outcomes are:

Targeted Outcomes:-	
Outcome-1:	Improved nutrition status of children under 5 and P&L women in target community.
Outcome-2:	Improved access to quality WASH services and improved WASH practices in target community.

1.3 RATIONALE OF THE BASELINE STUDY

Given the sizeable nature of resources planned to be expended on the project, it is imperative to **closely monitor its progress** towards the targeted objectives. With this viewpoint, Save the Children (SC) has planned to adopt an integrated approach for monitoring, evaluation, accountability and learning (MEAL) leading to continuous improvement of project's implementation strategy. Under the same, values of key measurable output and outcome indicators would be monitored at regular intervals so as to not only gauge the extent of progress and impacts at different stages but also identify the underlying **gaps** and accordingly devise **corrective strategies** for greater effectiveness. For the same, however, a robust set of **benchmarks** would need to be established at the start against which all future **output** and **outcome** indicators may be compared and evaluated. Such benchmarks are established by conducting a comprehensive **baseline study** within the "Bhanwar Singh Camp" slum of Vasant Vihar, New Delhi.

The sections presented ahead detail out the methodology & results of the baseline study.

OBJECTIVES AND METHODOLOGY

CHAPTER 2

2.1 OBJECTIVES

The specific objectives of the **baseline study** leading to **benchmarking of key outcome indicators** at various levels of project implementation are to:

i. Assess **baseline estimates** of output and outcome level indicators for the following aspects:
   a. Current nutritional and health status of children under-5 and pregnant/lactating mothers in target community;
   b. Current status of Infant and Young Child Feeding (IYCF) practices;
   c. Nature of service delivery through community service providers;
   d. Availability, accessibility and quality (use and child friendliness) of current WASH services in the target area;
   e. Knowledge, Attitude and Practices (KAP) related to WASH in target community.

ii. Identify the **facilitating factors** that support the project in attaining the intended outcomes;

iii. Identify the **restraining factors** that hinder smooth progression of the project towards attaining the intended outcomes;

iv. Identify the underlying **gaps** in project implementation;

v. Provide **recommendations** for taking remedial measures towards smooth progression of the project.

2.2 METHODOLOGY

(A) Data Collection tools

For the baseline survey, a **mixed methods approach** involving both **quantitative** and **qualitative** data collection was adopted. The **quantitative data** was collected by conducting **face-to-face interviews** of the targeted respondents at household level using semi-structured questionnaire. Under this arrangement, while most of the questions were structured, some open-ended questions in order to capture the qualitative information shared by such

respondents were also incorporated. Simultaneously, **anthropometric measurements** of **children under-5** and **pregnant women** were taken for assessing the nutritional outcomes among them.

While conducting the interviews with mothers/caregivers, a questionnaire specific to the child was be administered to them. These questionnaires contained questions regarding the age, diet, recent illnesses, breast-feeding and weaning, hygiene practices, dietary supplements / nutritional supplements and WASH practices.

The **qualitative data** was captured by conducting **in-depth interviews (IDIs)** with the frontline workers charged with providing public health & nutrition related services to the slum dwellers, and the concerned executive engineer of Delhi Jal Board deployed in the zone. This provided us insights into the providers' perspective regarding the nature and extent of services delivered by them in the slum area.

The qualitative data was also captured through **focus group discussions (FGDs)** among the community members in the targeted slum area in order to assess nature of WASH and public health & nutrition practices and challenges faced by the slum dwellers.

Overview of Data Collection Tools Used for Baseline Study

I. **Check-list** – for secondary data collection
II. **In-depth Interview (IDI) Schedule** – for public & nutrition and WATSAN services staff (ANM, AWW, ASHA, Executive Engineer - Delhi Jal Board);
III. **FGD Topic Guide** – for slum community members;
IV. **Face-to-face Interview Schedules** – for households, including mothers of children under-5, pregnant & lactating women, etc.;
V. **Anthropometric Measurements** – of children under-5 years, and pregnant women;

(B). Research Design

For the baseline study, a **cross-sectional research design** involving data collection from all the key stakeholders within the targeted slum area was adopted.

(C). Sampling

Sampling Universe

The Vision Healthy India project is proposed to be implemented across the "Bhanwar Singh Camp" slum of Vasant Vihar, New Delhi. A detailed listing of households was carried out a

week before data collection. The sampling universe for the baseline study incorporated all 1001 listed households and the mothers of children under-5, pregnant & lactating women, etc. residing within the slum area.

Sample Size & Selection

The study was proposed to be undertaken by selecting a representative sample of households having children 0-5 years from the targeted slum area. The proposed minimum sample size was calculated to be 384 based on the total household count of 1500 households in the slum area notified by Save the Children team. Similarly, considering the prevailing birth rate in urban slums, sample size of pregnant women and lactating women were calculated to be 108 and 78 respectively.

But according to the very recent house-listing conducted as part of the baseline survey to generate sample frame, only 1001 households were listed in Banwar Singh Camp area. Out of these 1001 households, only 767 houses were currently occupied. The residents of this slum are mostly migrants from Uttar Pradesh, Madhya Pradesh, Bihar, Jharkhand and Rajasthan. There was a large scale migration of these labourers due to Covid-19 and the subsequent lockdown, and hence listing exercise resulted in reduced number of occupants than the number expected during the inception phase of the project. **House-listing exercise identified a total of 217 mothers of 6-59 months aged children, 32 pregnant women and 18 lactating women. As these numbers were below the estimated sample size, it was decided to interview all these women as part of the survey.**

Table 2.1 Study Coverage

Sl. No.	Targeted Respondents	Number
1.	Mothers of children aged 6-59 months	184
2.	Pregnant women	23
3.	Lactating women	15
4.	In-depth interviews	7
	• AWWs	3
	• ASHAs	2
	• ANM	1
	• Engineer, Jal Board	1
5.	FGDs	3

At the end of the survey, as shown in Table 2.1, **184 mothers, 23 pregnant women and 15 lactating women were interviewed. Anthropometric measurements of 232 under five children and 20 pregnant women were also taken during data collection.**

Qualitative data was collected by conducting in-depth interviews of AWWs, ASHAs, ANM, engineer of Jal Board, Delhi and through focus group discussions.

(D). Mode of Data Collection

The primary data collection under the assignment was carried out by using questionnaires developed particularly for the purpose in **computer-assisted personal interviewing (CAPI)** mode. For the same, **tablets** that support both "off-line" and "on-line" modes of data collection were used. These smartphones were earmarked from our own pool that we maintain regularly for undertaking similar large-scale field surveys involving voluminous data samples. Data collection was completed in a week by 8 Research Investigators and 2 supervisors.

(E). Data Quality Assurance

Fieldwork quality under the assignment was ensured by the **Supervisors** who conducted both **spot-checks** and **back-checks** of the data enumerated by field teams. Besides, the Field Supervisors checked the consistency and possible omissions in filled-up questionnaires on 100% basis at the end of each day's fieldwork. Fieldwork monitoring was undertaken by **Field Coordinators** and **core staff members** on sample basis. In this way, the field teams were duly assessed for their performance leading to taking corrective actions on a regular basis. Besides, the Supervisors also lent supportive supervision to the field staff.

(F) Data Management

The enumerated data was duly uploaded on to AMS's server by Supervisors after checking for inconsistencies at the end of each day. Thereafter, the Supervisors and Field Coordinator separately accessed the uploaded data using their respective login Id and passwords on the **ODK** platform and conducted random back-checks of the collected data. During the process, inconsistencies in data were duly rectified and uploaded on to the server so as to enhance the reliability of the data enumerated by our field teams.

(G) Data Validation and Analysis

Collection, collation, analysis, and synthesis of qualitative and quantitative information, gathered and analysed using appropriate sources, tools, and methods is the cornerstone of needs assessments that allows decision makers to plan a strategic, appropriate, and coordinated response. A combination of different types and sources of data is required to build a holistic picture of the targeted population.

After downloading the enumerated data from the server, the back-end team validated it by duly subjecting it to range and consistency checks through specially developed Field Check Tables (FCTs). **The validated quantitative data was analysed by using SPSS software.**

Descriptive statistics (range, mean, standard deviation, etc.) was calculated for each variable. **Percentages and values** for various estimates desired under the study were also calculated using the specified formulae for each. Cross-tabulation was done for categorical variables

Sub-group analysis would also be undertaken to assess the difference of socio-economic status across groups of respondents –educational status, age group, gender; etc. **Cross tabulations** and **correlations matrix** were drawn for depicting any specific patterns in the data with regard to any specific subgroup.

As regards the **qualitative information** gathered through interview with key functionaries and focus group discussion, the first step was verbatim transcription of all the information collected. The same was analysed in a systematic and methodological manner. The transcribed information was then scrutinized for its primary as well as latent content.

The chapters ahead will proceed to shed light on the findings of the baseline evaluation.

HOUSEHOLD AND RESPONDENT PROFILE

3
CHAPTER

An understanding of socio-economic and demographic context is critical as it serves as the backdrop to the lived experiences or realities that the target respondents in the study area face. While the previous chapter gave a brief idea of methodology and evaluation design adopted for the study, the following sections in this chapter presents a holistic description of the profile of the households and the target respondents. Such an understanding of social and cultural forces, described by key socioeconomic characteristics of the ***222 households, comprising of 23 pregnant women, 15 lactating women and 184 mothers of children aged 6-59 months*** surveyed as part of the study, is essential as they interact and inform everyday lives of the individuals and community as a whole.

3.1. HOUSEHOLD PROFILE

All the respondents were asked about the demographic, socio-economic and housing profile of their households to understand the overall picture of the study area. These indicators can provide a baseline structure on which interventions can be planned.

(A). Socio-demographic Profile

For understanding the socio-demographic profile, details such as, social category and religion of the household, structure, number of members, education of the highest qualified member, and main occupation, were collected from the respondents.

Table 3.1 SOCIO-DEMOGRAPHIC PROFILE OF THE HOUSEHOLDS

Particulars	Lactating Women (N=15)	Pregnant women (N= 23)	Mothers (N=184)	Overall (N=222)
	%	%	%	%
SOCIAL CATEGORY OF THE HOUSEHOLDS				
• Scheduled Caste	40	52.2	62.5	**59.9**
• General	40	26.1	20.7	**22.6**
• Other Backward Class	13.3	17.4	13	**13.5**
• Scheduled Tribe	6.7	4.3	3.8	**4.1**
RELIGION				
• Hindu	93.3	95.7	91.8	**92.3**
• Christian	6.7	-	3.8	**4.1**

Table 3.1 SOCIO-DEMOGRAPHIC PROFILE OF THE HOUSEHOLDS				
Particulars	**Lactating Women (N=15)**	**Pregnant women (N= 23)**	**Mothers (N=184)**	**Overall (N=222)**
	%	**%**	**%**	**%**
• Muslim	-	4.3	2.2	**2.4**
• Buddhist	-	-	2.2	**2.2**
STRUCTURE OF THE HOUSEHOLDS				
• Nuclear	46.7	34.8	58.7	**55.4**
• Joint	53.3	65.2	41.3	**44.6**
MEAN FAMILY SIZE	6	6	5.6	**5.7**
MEDIAN YEARS OF EDUCATION OF THE HIGHEST QUALIFIED MEMBER OF THE HOUSEHOLD	10	12	10	**10**
MAIN OCCUPATION OF THE HOUSEHOLD				
• Salaried employee – private	60	47.8	61.4	**59.9**
• Casual Labour	20	17.4	17.4	**17.6**
• Domestic worker	13.3	13	5.4	**6.7**
• Trading / own business	-	4.3	5.4	**5.3**
• Unemployed	-	4.3	4.9	**4.8**
• Self employed	6.7	13	2.7	**4.0**
• Salaried employee – Govt.	-	-	1.1	**1.1**
• Retired	-	-	1.1	**1.1**
• Farming/Agriculture	-	-	0.5	**0.5**

Majority of the households belonged to scheduled caste (60%) followed by General and OBC households. Almost all the households followed Hindu religion (93%). Even though more than half of the households were nuclear families (55%), the mean family size for this urban slum was 5.7 members. Major occupation or source of income in these households were salaried employees in the private sector (60%). These jobs under private sector included gardeners, helpers in shops/restaurants, guards, peons in offices etc. which earned very meagre income for their families. Other main occupations of these households were casual labour (18%), domestic work (7%) and business (5%). Five percent of the respondents had also mentioned that their main bread winner as unemployed at the time of the survey. Number of years of education of the highest qualified member in the family was also explored and the median number of years of education/schooling for these members were found to be 10.

(B). Housing Characteristics

Housing characteristics provide an insight into the living conditions of people in the study area. Details such as type of housing, place for cooking, provision of ventilation, fuel used for cooking, source of drinking water, and type of toilet facilities were collected for the purpose.

Table 3.2 HOUSING CHARACTERISTICS

Particulars	Lactating Women (N=15)	Pregnant Woman (N= 23)	Mothers (N=184)	Overall (N=222)
	%	%	%	%
TYPE OF HOUSES				
• Pucca	53.3	60.9	65.8	**64.4**
• Semi-pucca	46.7	39.1	33.7	**35.1**
• Kachha	-	-	0.5	**0.5**
PLACE FOR COOKING				
• In the house, no separate room	60	56.5	62.5	**56.9**
• In the house, separate room	40	43.5	35.3	**36.5**
• In a separate building	-	-	5.0	**5.0**
• Outdoors	-	-	1.6	**1.6**
VENTILATION FOR COOKING SPACE (Base: Households with indoor cooking space)				
• Window	33.3	39.1	47.8	**45.9**
• None	40.0	43.5	32.6	**34.2**
• Exhaust Fan	26.7	21.7	27.2	**26.6**
MAIN TYPE OF FUEL USED FOR COOKING				
• **Improved cooking fuel** (LPG)	100	100	98.4	**98.4**
• **Unimproved cooking fuel** (Firewood)	-	-	1.6	**1.6**

Interviewers took a note of the type of building and cooking facilities of the households. **Around two-third households lived in pucca buildings (64%), while the remaining had semi-pucca structures**. More than half of the households cooked inside the house with no separate room for kitchen (57%) indicating minimal housing conditions. A little over one-third of the households had separate space as kitchen inside the house. Ventilation is critical for cooking spaces as it clears out unhealthy fumes and reduces exposure to combustion products. Ambient air pollution from cooking can cause serious respiratory conditions. About **two-thirds of the households (66%) with indoor cooking facility had either a window or exhaust fan facility for ventilation** of the cooking space. Appreciably,

nearly every household used clean fuel (LPG 98%) for cooking. Only a negligible proportion used firewood (2%) as the main source of fuel.

3.2. RESPONDENT PROFILE

All the respondent women were inquired about their basic demographic details to understand how these basic characteristics affect the infant feeding and nutrition practices adopted by them.

(A). Age Profile of the Respondents

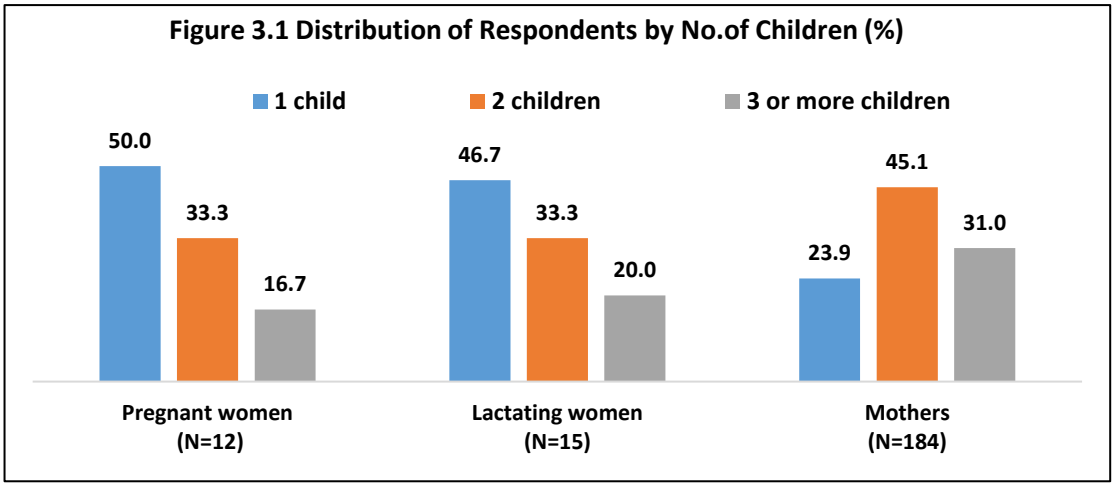
TABLE 3.3 AGE PROFILE OF RESPONDENTS

Particulars	Pregnant Women (N=23)	Lactating Women (N=15)	Mothers (N=184)	Overall (N=222)
Age category of the respondents (n)				
• Less than 26 years	17	10	73	**100**
• 26 – 30 years	6	4	78	**88**
• More than 30 years	0	1	33	**34**
Mean age of the respondents	24	24	28.4	**27.6**
Mean age at first marriage	19	19	20.0	**19.8**
Mean age at first pregnancy	24	21	21.9	**22.1**

Under this section, women were mainly enquired about their age at different milestones of life. The respondents were asked about their age at last birthday to obtain the age of these women at the time of the survey. Most of the women respondents belonged to 'less than 26 years' category. The mean age of the respondents was found to be 27.6. Mothers of children aged 6-59 months registered higher mean age of 28 years while that of pregnant and lactation women were 24 years. Similarly, age at marriage and age at pregnancy were obtained from the respondents. If any woman has had multiple marriages or multiple pregnancies, her age at first marriage and first pregnancy were noted. The **mean age at first marriage and at first pregnancy was calculated to be 19.8 years and 22.1 years respectively**.

(B). Number of Children

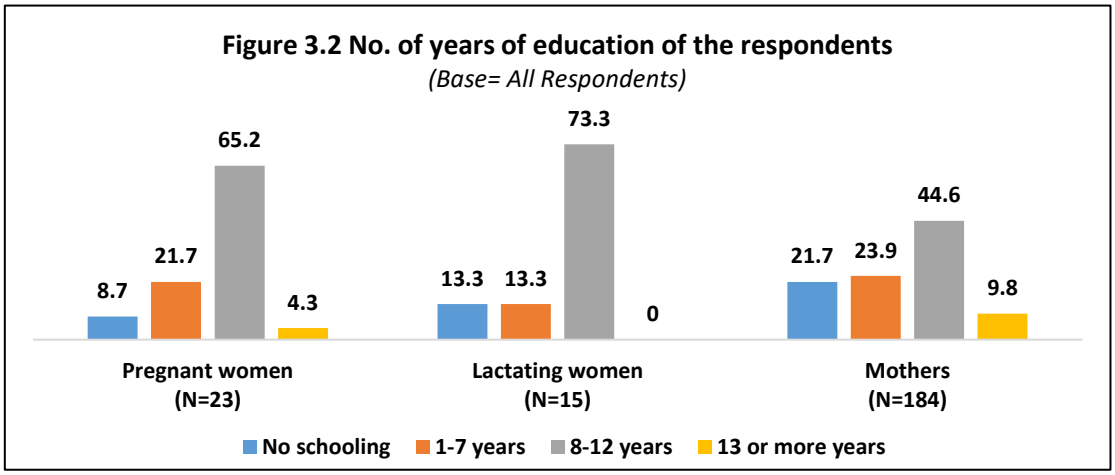
Respondents were also enquired about the number of children they have. Figure 3.1 shows that around half of pregnant and lactating women and one-fourth of mothers had one child each.



Also, almost half of the mothers (45%) had two children each whereas only one-third of lactating women and pregnant women had two off-springs. On the whole, a greater number of mothers of child aged 6-59 months reported to have more than one child compared to currently pregnant and lactating women. The **mean number of children per women** in the study area was found to be **2.4.**

(C). Education Level of the respondents

Another important demographic indicator is the educational status of the women in the society. Female literacy and higher educational status of women are found to have significant effect on the overall health and development of the society as a whole.



All the surveyed respondents were enquired about the number of years of education they attained. Majority of pregnant women, lactating women and mothers had 8-12 years of education. Even then, **one-fifth of all the women interviewed (20%) had no formal schooling**. The **median years of** education of these women was found to be **10 years.**

ANTE-NATAL CARE (ANC) SERVICES

4 CHAPTER

The goal of ANC services is to prevent, detect and manage complications related to pregnancy and childbirth, thereby reducing the huge burden of maternal and infant mortality and morbidity. Data on coverage of these ANC services would provide a foundation on which various future interventions linked to maternal and child health are planned. Pregnant women in the 2nd and 3rd trimester and lactating women (mothers of children aged 0-5 months) were asked to recall the ANC services they received during pregnancy to assess the extent of ANC coverage among women in the study area. Sections ahead describe the survey results generated related to these aspects based on the responses from pregnant and lactating women.

4.1. ANTENATAL CARE COVERAGE

Antenatal care coverage indicator describes the access to and exercise of maternal healthcare system of the region. World Health Organisation recommends at least four ANC check-ups during pregnancy for every woman. This model developed by WHO is called The Focused ANC (FANC) model or the Basic ANC covering four ANC visits occurring between 8-12 weeks, 24-26 weeks, at 32 weeks, and 36-38 weeks of gestation[1]. In India, according to National Rural Health Mission, antenatal care should comprise of at least four visits, occurring between 1-12 weeks, 14-26 weeks, 28-34 weeks and 36-term. It is also mandatory to register pregnancies within 12 weeks of gestation; this improves the coverage and quality of services provided to pregnant women.

(A). Awareness about Desired number of ANC Checkups

Every practice starts with adequate and accurate awareness. To understand the level of awareness among the respondents in the study area, all pregnant women and lactating women were queried about their knowledge on the minimum required number of ANC check-ups during pregnancy.

Table 4.1: Number of required minimum number of ANC visits cited by Respondents

Respondent	Average no. of visits	Minimum	Maximum
Pregnant women (N=23)	6	3	3
Lactating women (N=15)	6	3	3

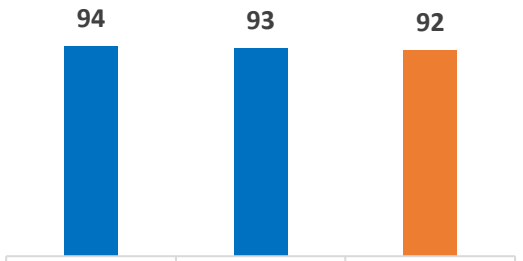
[1] WHO, "Antenatal Care."

Responses ranged from 3 to 9 and on an average 6 ANC visits were considered as the required minimum number of ANC check-ups by these women. Five percentage of pregnant and lactating women mentioned that they were not aware about the minimum number of ANC visits. Overall, around **four-fifth of all pregnant women (78%) and lactating women (80%) mentioned at least four as the minimum number of recommended ANC check-ups that one should take during pregnancy**.

(B). Receipt of ANC among Respondents

All the pregnant women and lactating women were then asked to recall the number of ANC visits they had during their current or last pregnancy. Appreciably, **92% of them had received at least 1 ANC.** Share of pregnant and lactating women who received at least one ANC check-up is 94 percent and 93 percent respectively (Figure 4.1).

Figure 4.1 Proportion of women who received at least 1 ANC check-up (%)

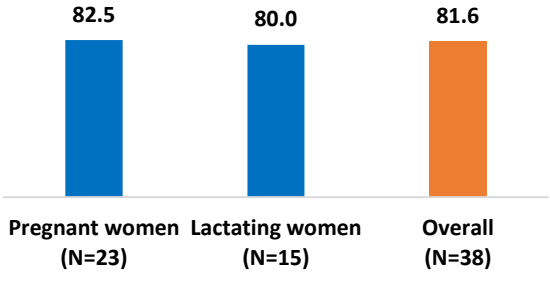


Husbands of all these women accompanied them for at least one ANC check-up and average number of times they had gone with women was found to be 3. For further analysis, share of women who received at least four ANC check-ups was looked into. Only lactating women is included for calculating the same. **12 out of 15 lactating women (80%) interviewed were found to have availed recommended level of minimum four ANC check-ups during their last pregnancy.** These results suggest that access to maternal health services during pregnancy in the study area is quite satisfactory.

(C). Receipt of ANC in the first trimester

First ANC check-up determines whether the woman requires standard/basic antenatal care or special attention and more visits. Even though WHO basic ANC model and Indian NRHM recommends the first ANC anytime within 12 weeks (first trimester), it is always better to have the first ANC visit as early as possible to detect any underlying conditions requiring special care/treatment.

Figure 4.2 Proportion of women who received ANC check-up in the 1st trimester (%)



Stage of receipt of first ANC check-up among the pregnant and lactating women was also looked into by asking them to recall when they received their first ANC check-up. **The survey found satisfactory proportions of pregnant women (83%) and lactating women (80%) who received ANC in the first trimester of their pregnancy.**

(D). Type of Services Received During ANC Visits

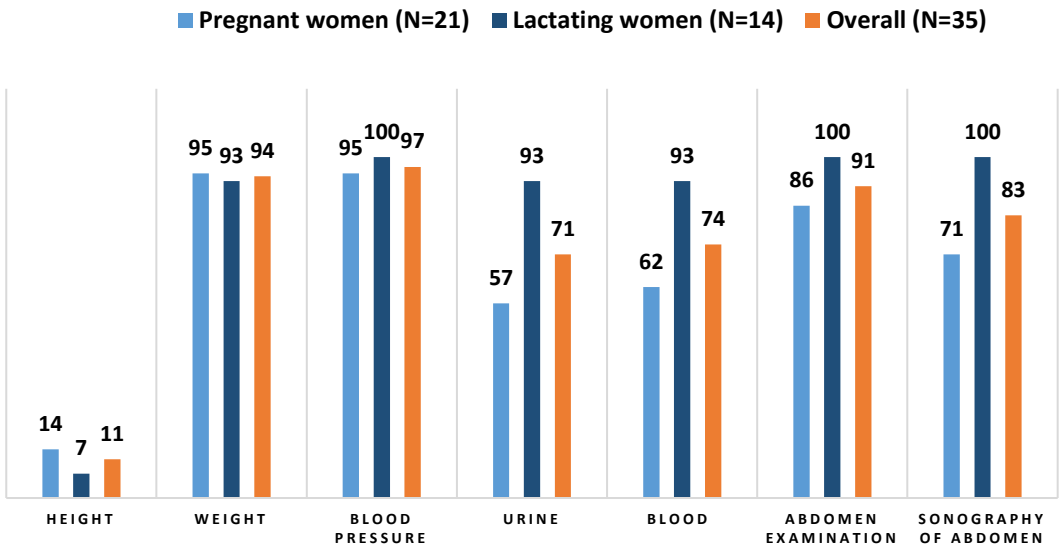
Antenatal care can help women to experience a risk free pregnancy term and child birth. ANC visits offers many services, vital to detect any risks to maternal or foetal health. Some of the services offered during ANC visits in India are,

i. Measurement of weight
ii. Measurement of height
iii. Measurement of blood pressure
iv. Examination of urine
v. Examination of blood
vi. Examination of abdomen
vii. Sonography of abdomen

Pregnant and lactating women who had at least one ANC check-up were further asked whether they had received the aforesaid services in any of their ANC visits during pregnancy. They were probed by asking individually about each and every type of critical tests and examinations that they were required to receive as part of the ANC check-ups.

Figure 4.3. Distribution of Respondents based on the Type of Services received duing ANC visits (%)

[Base: Pregnant & lactating women who received at least 1 ANC]



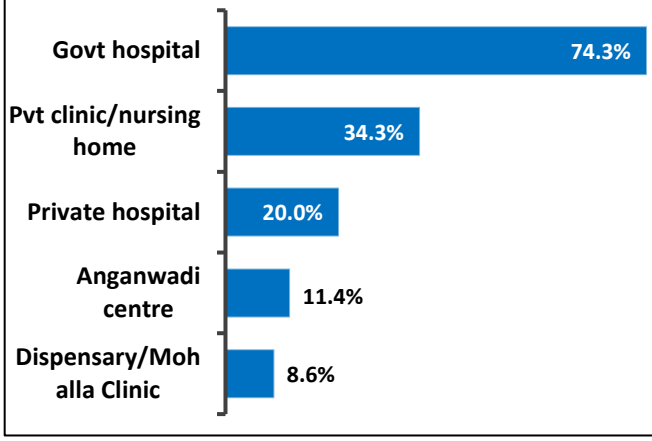
As shown in figure 4.3, **except for height measurement, all the other services were offered to a large proportion of pregnant and lactating women during ANC check-ups**. Compared to lactating women, slightly lower proportion of pregnant women had their urine and blood tests and sonography during the ANC check-ups. The proportion of **pregnant women and lactating women who received at least four services was found to be 100 percent**. All the women of reproductive age should be brought under the purview of ANC checks-ups and related services during their pregnancy as it contributes to overall health and well-being of mothers and their new-borns as well as serve as an important step towards achieving positive pregnancy outcomes.

(E). Place of receipt of services

All pregnant women and lactating women who reported to have received at least one ANC check-up were further asked about the place where they received these services from. They were encouraged to recollect all the places from where they had received ANC check-ups and related examinations. Figure 4.4 depicts various facilities which catered to their ANC check-ups. **Most of the respondents availed these services from government hospital (74%).** Private clinic/nursing home and private hospital were also relied by considerable proportion of the respondents. Results do point out that few respondents went to multiple facilities to undertake their ANC checks-ups. **Overall, dependence on public health facility was found to be higher as 94 percent of the respondents went to a public health facility for getting these services**. Another 54 percent were relied on private facilities for these services.

Figure 4.4 Facility of receipt of ANC services

(Base: Pregnant & lactating women who received at least 1 ANC, N=35)

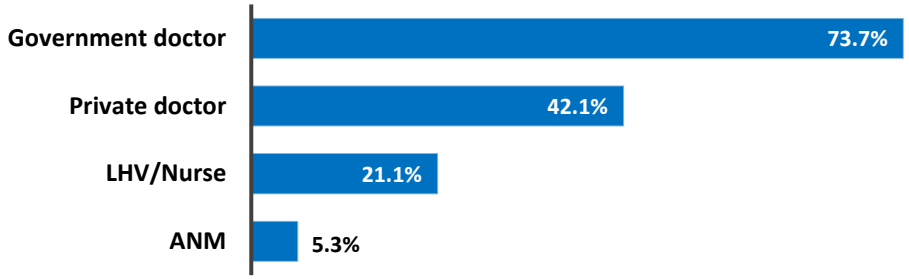


(F). Health worker who Provided ANC Services

Subsequently, pregnant and lactating women were asked the health worker who provided these services. Higher reliance on public facilities for ANC check-ups was further reflected through the kind of health workers who delivered such services to the women. About **three-fourths of these respondents said they received the ANC services from a**

government doctor (74%). Others service providers were private doctor (42%), LHV or Nurse (21%) and ANM (5%).

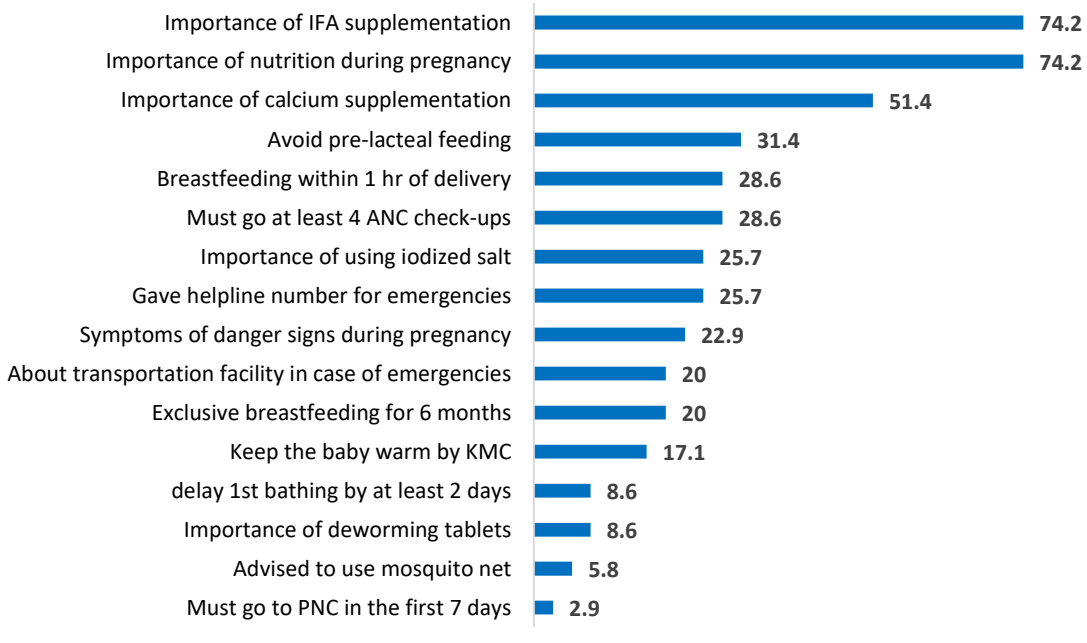
Figure 4.5 Health workers who provided ANC services
(Base: Pregnant & lactating women who had at least 1 ANC, N=35)



(G). Advises received during ANC check-ups

In addition to various services, ANC check-ups are a platform for pregnant women to avail information regarding various aspects of the pregnancy like the type of care that the women should receive, birth preparedness, immediate new-born care and other recommended practices that should be followed during pregnancy and post-partum. Service providers are expected to deliver these vital details to pregnant women during each antenatal visit.

Figure 4.6 Proportion of women who received various advices during ANC checkups (%)
(Base: All pregnant and lactating women who had received atleast one ANC, N=35)



As the effectiveness of counselling lies in the ability of recipient to recall the messages, the pregnant and lactating women who received at least one ANC were particularly asked to recount the types of advices that they received from the service providers at the time of receiving antenatal check-ups. Figure 4.6 presents the findings obtained from this query.

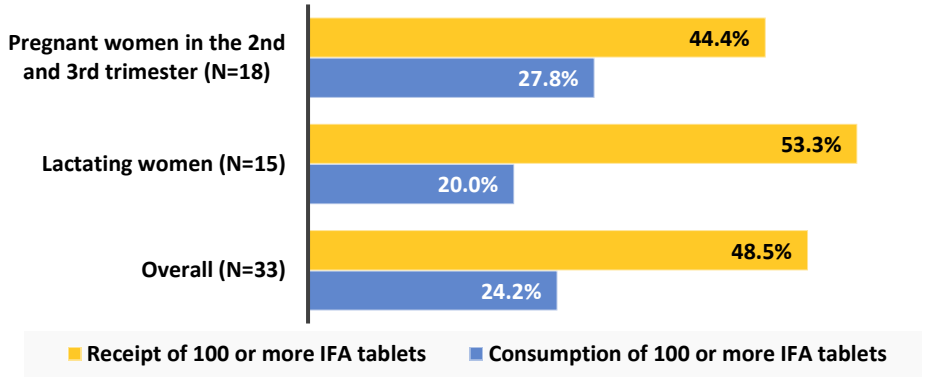
As shown in figure 4.6, majority of the women were informed about the importance of IFA supplementation (74%), nutrition (74%) and calcium supplementation (51%) during pregnancy. Other important advices they received were to avoid pre-lacteal feeding (31%), to breastfeed immediately within one hour of delivery (29%) and the importance of 4 ANC visits (29%). Very few of them were advised on PNC visits (3%), importance of mosquito nets (6%) and deworming tablets (9%). This is in line with the very low proportion of women who affirmed consumption of deworming tablets (6%) during pregnancy (figure 4.10). Overall, type of messages recalled by the respondents indicate that there exists a need to improve the quality of counselling sessions as part of ANC and thereby improve the awareness level of women of reproductive age regarding the integral aspects of maternal and child health and nutrition.

4.2. IFA SUPPLEMENTATION DURING PREGNANCY

Pregnant women require additional iron and folic acid to meet the nutritional needs of their own body as well as of developing foetus. Iron and folic acid deficiency induced anaemia during pregnancy can have negative impacts on maternal and foetal health including maternal fatigue, puerperal sepsis, low birth weight and pre-term delivery. Department of Health and Family Welfare, Government of India, recommends IFA supplementation (100mg elemental iron & 500 mg folic acid) every day for at least 100 days during pregnancy.

All pregnant women and all lactating women were queried about receipt and consumption of iron and folic acid tablets during pregnancy. **A substantial proportion of 83% pregnant women and 93% lactating women had received iron tablets during their pregnancy term**. Out of these women who received any number of IFA tablets, everyone consumed some tablets.

Figure 4.7 Receipt and consumption of at least 100 IFA tablets during Pregnancy

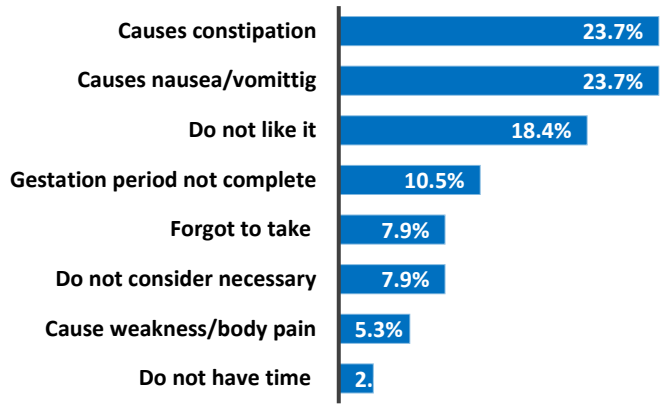


For analysis of receipt and consumption of 100 or more IFA, pregnant women in the first trimester are omitted. Although around half of pregnant women in 2nd and 3rd trimester (44%) and half of all lactating women (53%) had received 100 or more IFA tablets, the proportion who consumed these tablets was very low. **Only a little more than one-fourth of these pregnant women (28%) and one-fifth of lactating women (20%) had consumed 100 or more of IFA tablets during pregnancy. On an average respondents consumed 94 IFA tablets during pregnancy.** Overall, gap between receipt and consumption of a minimum of 100 IFA tablets stood at 24 percentage points. Results do point out that more than gaps in supply-side chain, adherence to consumption of recommended levels of iron supplementation is an integral aspect that requires support in the study area.

The respondent women, who reported to have missed out on consuming all the tablets that they received, were further probed about the reasons why they did not consume all the tablets. Open-ended, unprompted, multiple responses were elicited in this have been depicted in figure 4.8.

Figure 4.8 Reasons cited for not consuming the IFA tablets received during Pregnancy

[Base= Pregnant & Lactating Women who did not consume the entire IFA tablets received]



Experience of side effects like constipation (24%), and nausea/vomiting (24%) formed the prominent reasons for sub-optimal consumption. 18% expressed that they do not like to consume the tablets. One-tenth of the pregnant women did not consume all the IFA tablets as their gestation period is not complete. Considering the importance of IFA tablet intake during pregnancy, this is a critical area to be intervened.

4.3. CONSUMPTION OF CALCIUM TABLETS DURING PREGNANCY

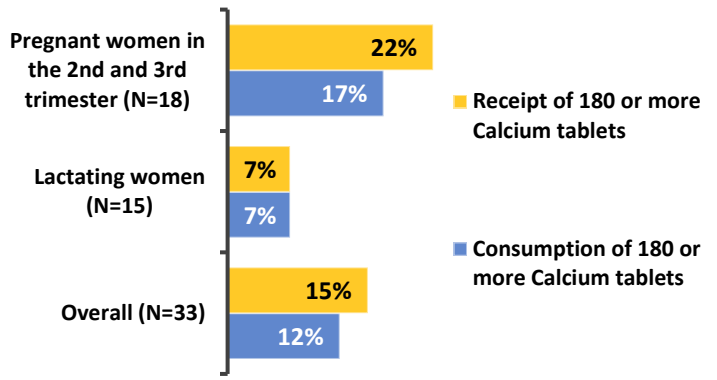
According to WHO, hypertensive disorders like pre-eclampsia and eclampsia are among the main causes of maternal mortality and pre-term births? Calcium supplementation during pregnancy improves calcium uptake and consequently reduces the risk of hypertensive disorders. Daily intake of 1.5g to 2.0g of elemental calcium is recommended.

All pregnant and lactating women were inquired about their calcium tablets receipt and intake during pregnancy**. 17 out of 23 pregnant women and 12 out of 15 lactating women had**

received calcium tablets during pregnancy. Number of calcium tablets received by this lot ranged from 10 to 360 tablets. As regards the calcium intake, 70 percent pregnant women and 67 percent lactating women in the study sample had taken calcium supplementation during pregnancy. **The average number of calcium tables consumed by pregnant women and lactating women were 88 and 61 respectively**.

As per the directives issued by the Government of India in 2015-16, every pregnant woman should be given 2 Calcium tablets per day for 180 days starting from the second trimester of her pregnancy up to delivery and further for 180 days post-delivery. Overall, **only 15% of the respondents received at least half (180 tablets) of the recommended quantity of calcium supplementation**. Nevertheless, extent of gap between receipt an consumption levels reported in case of IFA supplementation is not in calcium supplementation levels. Just **12%** of pregnant (in 2nd & 3rd trimester) and lactating women **consumed a minimum of 180 tablets during pregnancy**. Relatively higher share of pregnant women received desirable quantity of calcium tablets as compared to lactating women. Current level of consumption of calcium tablets during pregnancy is far behind the recommended norms and therefore requires added focus in future interventions.

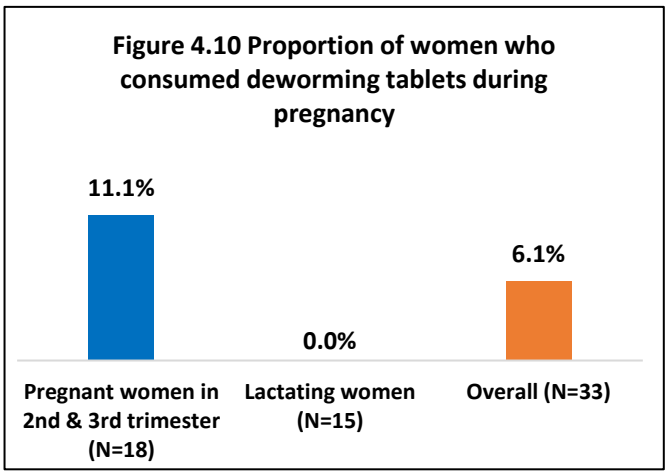
Figure 4.9 Receipt and consumption of at least 180 Calcium tablets during Pregnancy



4.4. CONSUMPTION OF DEWORMING TABLETS DURING PREGNANCY

Women living in economically backward conditions, are prone to soil-transmitted helminth infections caused by parasites (or worms) like roundworm, whipworm, and hookworm. These parasitic infections can lead to internal bleeding, intestinal obstruction and impairment of digestion and absorption. Hence, preventive

Figure 4.10 Proportion of women who consumed deworming tablets during pregnancy

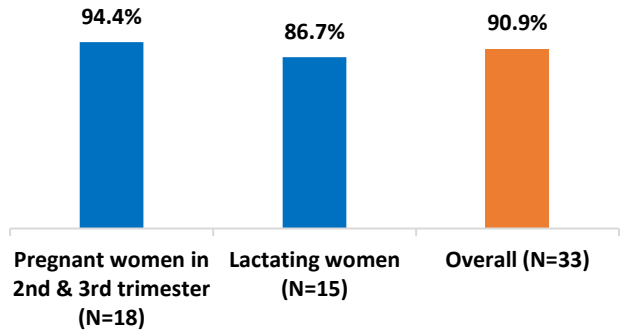


chemotherapy of single dose albendazole or mebendazole is recommended for pregnant women. All pregnant women except for the ones in 1st trimester and all lactating women were asked to recall consumption of deworming tables during pregnancy. **Only a meagre proportion of 11 percent pregnant women had consumed deworming tablets. None of the lactating women had consumed them.** Health educations and other interventions to increase the knowledge about and intake of deworming tablets are suggested for these respondents.

4.5. RECEIPT OF TETANUS TOXOID INJECTION DURING PREGNANCY

WHO recommends giving tetanus toxoid vaccination to pregnant women to protect them from tetanus and to protect the new-born from neonatal tetanus. When pregnant women in 2nd and 3rd trimester and lactating women were asked about their vaccination status, an overwhelming proportion of **90 percent of these women said they had received TT injection during pregnancy.** Half of these respondents received 2 doses of TT injections during their pregnancy.

Figure 4.11 Proportion of women who received TT injection during pregnancy

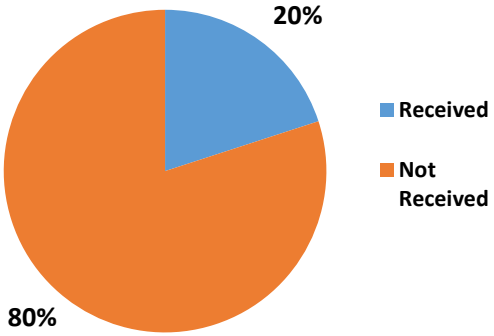


4.6. RECEIPT OF FULL ANTENATAL CARE

National Family Health Survey of India defines 'full antenatal care' as proportion of women who received at least four antenatal visits, at least one tetanus toxoid (TT) injection and iron folic acid tablets or syrup taken for 100 or more days. For calculating this composite indicator, responses of pregnant women and lactating women on queries related to the no. of ANC check-ups they received, no. of IFA tablets they consumed and receipt of TT injections during their pregnancy term were taken into account. The data from the study showed a **very alarmingly low proportion of women who received completed ANC**. Only 3 out of 15 lactating women, which is **just 20%, had availed full ANC care.** Although lactating women who received at least four ANC check-ups and at least one TT injection were high in this sample, the composite total reduced because of low levels of

Figure 4.12 Proportion of women who received full antenatal care

[Base= Lactating Women, N=15]

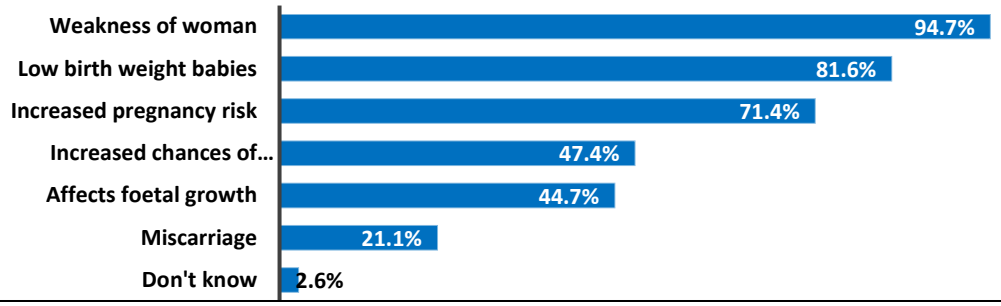


consumption of at least 100 IFA tablets, suggesting an urgent intervention focus to enhance IFA supplementation awareness and practices among the mothers in the study area.

4.7. AWARENESS ABOUT PROBLEMS CAUSED BY IRON DEFICIENCY

All pregnant and lactating women were inquired about their awareness about problems caused by iron deficiency. As evidenced from figure 4.13, awareness about common issues of iron deficiency was found to be high in this study population.

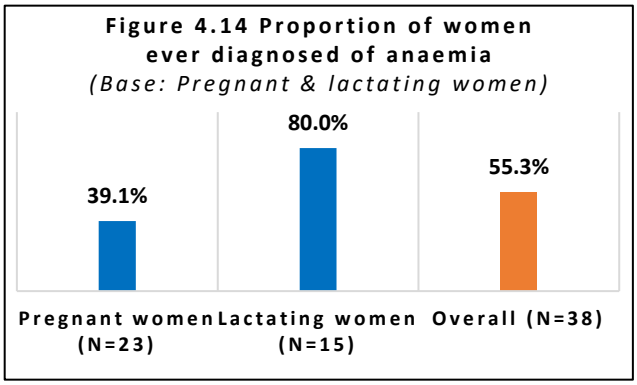
Figure 4.13 Awareness about problems caused by iron deficiency
(Base: Pregnant & lactating women, N=38)



Almost all women (95%) pointed out the issue of fatigue in women as an aftermath of iron deficiency. And four-fifths (82%) and one-fifth (21%) of all these women were also aware about low birth weight babies and miscarriage respectively. Around half of them (47%) cited iron deficiency will lead to higher chances of infection. **Overall, all the surveyed lactating women and 70 percent pregnant women were knowledgeable about 3 or more issues caused by iron deficiency**. Only about 3 percent of these respondents were not aware about any problems.

4.8. WOMEN EVER DIAGNOSED OF ANAEMIA

Figure 4.14 Proportion of women ever diagnosed of anaemia
(Base: Pregnant & lactating women)



All pregnant and lactating women were enquired about ever being diagnosed as anaemic or heard any health professional categorising them as anaemic. The study found two-fifths (39%) of all pregnant women and four-fifths (80%) of all lactating women were diagnosed as anaemic at some point in their life. **This indicator draws attention to high awareness but the low IFA consumption rate in this population of women**, implying the need for significant behavioural change intervention in this regard.

INFANT AND YOUNG CHILDREN FEEDING PRACTICES

5 CHAPTER

Infant and Young Children Nutrition is an integral part of the SDG Goal no.3.2 which aims to reduce the under-5 mortality rate and hence, improving IYCN practices in children is critical to overall child survival and development. World Health Organisation (WHO) and Department of Health and Family welfare, Government of India, have put forward many indicators to assess IYCN practices of the community. This section attempts to understand the current and past infant and young children feeding practices adopted by lactating women and mothers of children aged 6 – 59 months. The indicators for this chapter were imbibed from WHO and NFHS (National family Health Survey) guidelines for the assessment of IYCN practices of the respondents.

The structured questionnaire for the baseline survey had separate sections for mothers of children in different age groups. **Lactating women (mothers of 0-5 months' children) and mothers of children aged 6-59 months were asked about the infant feeding practises** like when was the child put to breast after birth and for how long the baby was exclusively fed breast milk; and mothers of children aged 6-23 months were inquired about the feed and meals given to the child on the previous day to elicit information on these IYCN indicators. Furthermore, various awareness indicators to assess the women's knowledge on infant feeding practices, were also included in the questionnaire. The sections ahead depict study findings with regard to various aspects of infant and young child feeding practices in the study area.

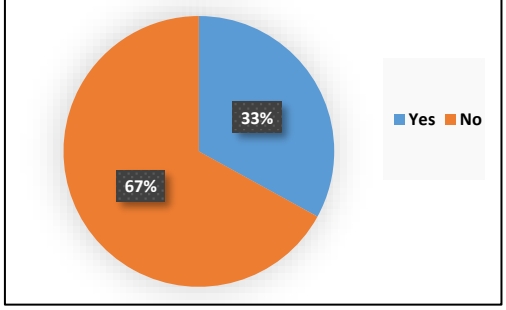
5.1. EARLY INITIATION OF BREASTFEEDING

Definition- ***Early initiation of breast feeding*** is the proportion of children aged 0-59 months who were put to breast within one hour of birth.

Breastfeeding contributes to saving children's lives, and there is evidence that delayed initiation of breastfeeding increases their risk for mortality (WHO). Mothers of 0 – 5 months old children (lactating women) and 6 – 59 months old children (mothers) were asked if they ever breastfed their youngest child who was the sampled child for the survey. Following this, women who had ever breastfed were further probed to recall when they put their infant to breast after delivery.

Even though the proportion of women ever breastfed was very high in the sample (99%), only one-third of 0-23 months old infants were initiated with early breastfeeding (Figure 5.1). Further lactating women who did not start breastfeeding within an hour of delivery were asked about the reasons that hindered them from doing so. To this, almost two-thirds of them stated that their new-born was kept away from them after delivery and hence, they could not start breastfeeding on time. Other medical issues restricted another 27% of them in initiating breast feeding within an hour of delivery and few of them (7%) delayed based on the advice of the doctor.

Figure 5.1 Proportion of Infants who received Early Initiation of Breastfeeding
(Base: Children aged 0-23 months children, N=85)



Interestingly, **more than four-fifths of these women (86%) had heard some messages about IYCN practices** suggesting there is no exigency to focus on creating awareness, instead efforts shall be made in stimulating the practice in this regard. **When asked about the regional practice of feeding something sweet to the infant before initiating breastfeeding, 17 percent women believed that it is a right thing to do.** The same question was asked to **elderly care takers** of children and **85 percent of them said nothing but breastmilk should be fed in the initial days.** This indicates there is a need to exert focussed efforts in inculcating behavioural changes in the community.

5.2. EXCLUSIVE BREASTFEEDING

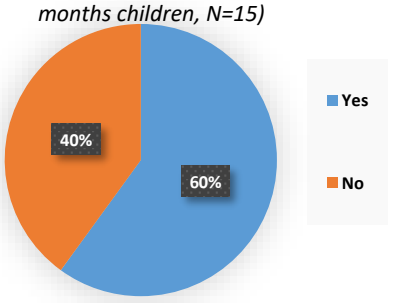
Definition- ***Exclusive breastfeeding*** is the proportion of infants under 6 months who were fed only breast milk with no additional food or drink, not even water for the first 6 months of life.

Exclusive breastfeeding for children aged 0-5 months provides sufficient energy and nutrition for growth and overall development of the child. Breastmilk is the sole source of naturally acquired passive immunity and has an impact on sensory and cognitive development of the child. It is also an indicator of maternal health. For the purpose of this study, lactating women with children aged 0-5 months were asked whether they were breastfed the day before the survey. The children were considered exclusively breastfed if they had been fed with only mother's milk and not being fed with anything else. The results thus obtained are presented in figure 5.2. **The survey found that 60 percent of infants aged 0-5 months were exclusively breastfed.**

All respondents of the survey including pregnant women, lactating women and mothers were also asked about the optimal duration an infant should be exclusively breastfed. A very high proportion of **91 percent pregnant women, 93 percent lactating women and 92 percent mothers deemed 6 months to be an appropriate time period for exclusive breastfeeding**. Women of reproductive age in the study area are very well aware about the desired duration of exclusive breastfeeding. Results show that they need further hand holding in translating the knowledge into practice which will go long way in enhancing the new-born health and nutritional status.

Figure 5.2 Proportion of Infants who were fed Exclusively with Breastmilk

(Base: Lactating women with 0-5 months children, N=15)



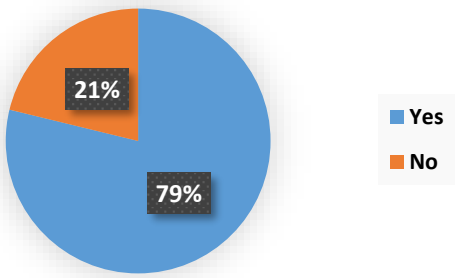
5.3. AGE APPROPRIATE BREASTFEEDING

Definition: Age-appropriate breastfeeding is defined as the proportion of infants 0–5 months of age who received only breast milk during the previous day and children 6–23 months of age who received breast milk, as well as solid, semi-solid or soft foods, during the previous day

To meet the nutritional requirements as per the age of the child, appropriate strategy of breastfeeding practice has to be adopted. As mentioned above for the other IYCN indicators, age appropriate breastfeeding practices also have the scope of reducing under-five mortalities. As per the protocol of WHO and UNICEF, infants are considered breastfed in age-appropriate manner, if they are exclusively breastfed up to the completion of 5 months of age and then given breastmilk along with adequate supplementation of solid, semi-solid or soft food items. Based on this definition, overall, the survey found a very high proportion (79%) of children aged 0 – 23 months who are breastfed appropriately for their age.

Figure 5.3 Proportion of Children who are Appropriately Breastfed

(Base: Children aged 0-23 months, N=85)



5.4. CONTINUATION OF BREASTFEEDING

Definition: **a) *Continued breastfeeding at 1 year of life*** is defined as the proportion of children 12–15 months of age who are fed breast milk.

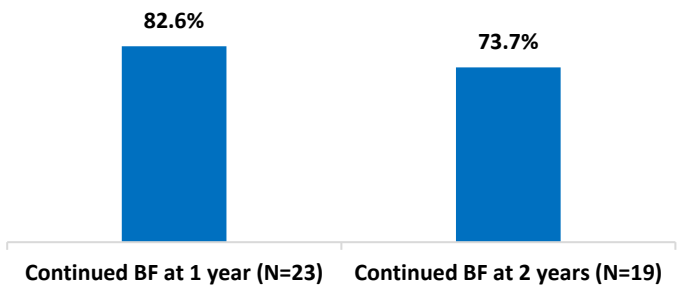
b) *Continued breastfeeding at 2 years of life*: The proportion of children 20–23 months of age who are fed breast milk.

Continued or extended breastfeeding up to 1 or 2 years provides longer-term health benefits for the mother and the child. Evidences show that continued breastfeeding can prevent certain infections like diarrhoea in children.

All mothers were asked about foods given to the child the previous day and the frequency of feeding each food item. Figure 5.4 depicts the proportion of mothers who fed their children of 6-23 months with breast milk along with other liquids, semi-solid or solid food items on the day before the survey. The study deducted that **extended breastfeeding at 1 year of age (83%) was more common than continued breastfeeding at 2 years (74%).**

Figure 5.4 Proportion of Children who received Continued Breastfeeding

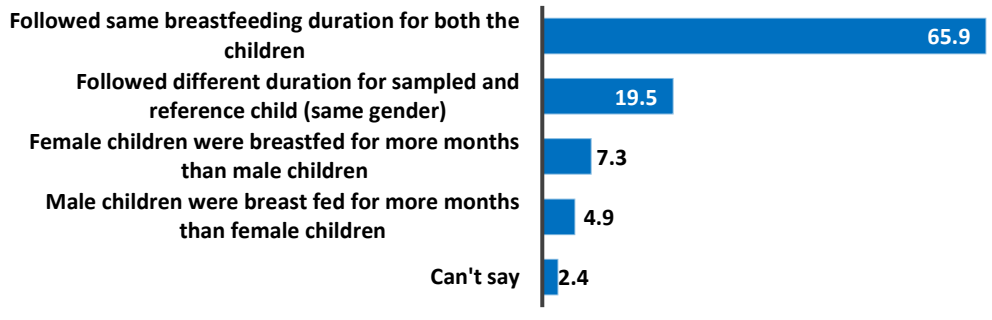
(Base: Mothers of children 12-15 months or 20-23 months)



Women with more than one child (N=41) under the age of five were asked about the demographic details of the other children also. Child closer to the age of the sampled child is selected as the reference child. These women were inquired about their breastfeeding practice in terms of continuation of breastfeeding they had adopted for the reference child to examine whether any gender differences exist in prolonging breastfeeding among their children.

Figure 5.5 Practice followed for other children in duration (months) of breastfeeding (%)

(Base: Women with more than one child below 5 years, N=41)

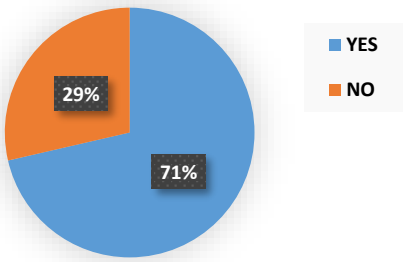


In figure 5.5, while about two-thirds women stated they had breastfed the other child also for the same duration as that of the youngest child, 7 percent said female children (n=3) and 5 percent said male children (n=2) were breastfed for more no. of months than the other. Another two-fifths of these mothers said they continued breastfeeding differently for sampled child and reference child owing to other medical, appetite or nutritional requirements. However, these set of infants were of the same gender. Altogether, survey findings reflected **no evident gender bias in the breast feeding practices undertaken by mothers in the study area.**

5.5. INTRODUCTION OF SOLID, SEMI-SOLID AND SOFT FOODS

Definition- ***Introduction of complementary foods*** is defined as the proportion of infants aged 6–8 months who receive solid, semisolid or soft foods.

Figure 5.6 Introduction of solid, semi-solid and soft foods
(Base: Mothers of 6-8 months infants, N=7)



WHO recommends 6 months as the appropriate time for introduction of solid, semi-solid and soft foods to infants, because breast milk alone won't meet the nutritional requirements of the growing child. Mothers and elderly caretakers were asked about the right age of introduction of complementary feeds and were also inquired about what the baby was fed the previous day. **An overwhelming proportion of 94 percent mothers and 93 percent elderly caretakers said 6 months is the appropriate age to introduce complementary foods.** More than two-thirds of mothers (71%) with infants aged 6-8 months had fed their children solid, semi-solid or soft foods on the previous day of the survey. When mothers with more than one child below five years of age were asked about their practice regarding the time of introduction of complementary foods with the other child, **91 percent said that all their children were introduced complementary foods at the same time**. A small proportion of 7 percent mothers who followed different approach were based on the specific nutritional requirement of children. These set of mothers had same gender children. Findings show that the mothers in the study area did not depict any gendered bias between their kids in this aspect.

5.6. MINIMUM DIETARY DIVERSITY

Definition- ***Minimum Dietary Diversity (MDD)*** **is** the proportion of children 6–23 months of age who receive foods from 4 or more food groups.

Dietary diversity is a proxy for nutrient adequacy of the diet. With the introduction of semi-solid food group, the child should be introduced to all the dietary food groups so that they can get the appropriate amount of nutrition. There are 7 important food groups that the child should consume as recommended by WHO-UNICEF guidelines (2008)[2] in addition to breast milk. These are depicted in the adjacent figure.

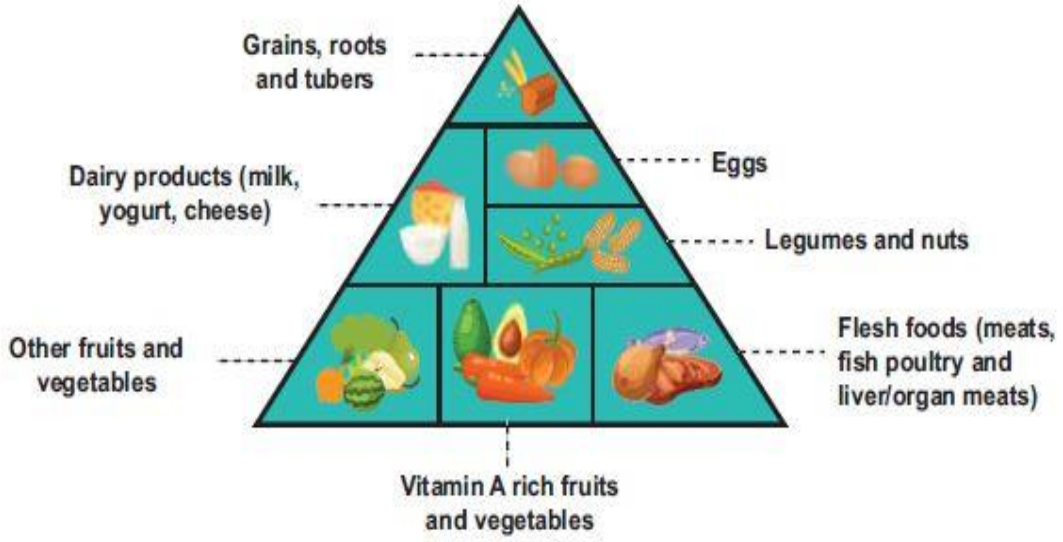
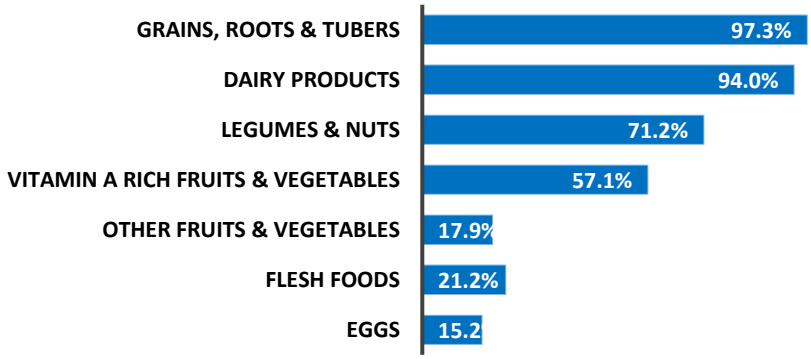


Figure 5.7 Food groups consumed by Children on the previous day

(Base: Children aged 6-23 months, N=70)

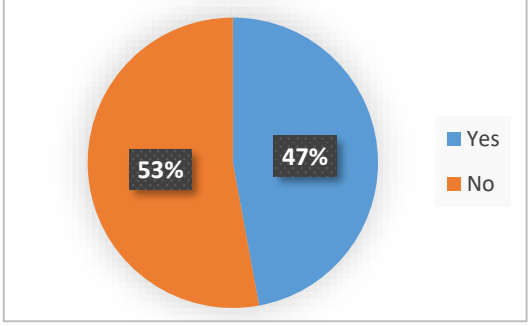


In order to understand the diet composition of infants aged 6-23 months, the mothers who affirmed that their child had a typical previous day were then asked about all types of foods that their child ate previous day during the day or at night either separately or combined with other foods. The interviewers were given a comprehensive list of all types of foods and they were required to inquire into the consumption of each type of food. While the mothers offered a description, the investigators were required to mark the food groups that were covered by the specific food. Figure 5.7 depicts the proportion of children who consumed various food items belonging to the 7 groups.

[2] WHO (2008): Indicators for assessing infant and young child feeding practices Part 1 &2

Proportion of children who were fed grains, roots, tubers (97%) and dairy products (94%) was very high compared to non-vegetarian food items like eggs (15%) and flesh foods (21%). Results suggest that children's diet was majorly vegetarian and grains, roots and tubers and dairy products comprised the major part of their meals.

Figure 5.8 Proportion of Children who had Minimum Dietary Diversity
[Base: children aged 6-23 months, N=70]



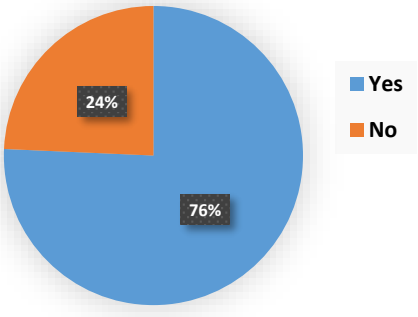
Based on the responses received, minimum dietary diversity (MDD) of children has been computed. MDD is a significant indicator that provides insights into the nutritional diversity of children aged 6-23 months. Consumption of at least 4 groups among these 7 food groups is the cut-off set for this indicator. **Less than half of the children (47%) aged 6-23 months had an adequately diverse diet containing four or more food groups.** These findings are pointing to the fact that the current infant dietary practices among mothers in the community are far from desirable and extensive interventions will be required to bring about a positive change in this regard.

5.7. MINIMUM MEAL FREQUENCY

Definition: ***Minimum Meal Frequency (MMF)*** Proportion of breastfed and non-breastfed children 6–23 months of age who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more.

Along with ensuring that the child is eating the appropriate kind of food, it is essential that the child has the appropriate number of meals in a day. Minimum meal frequency indicator is important to ascertain sufficient the energy/calorie intake in children aged 6 – 23 months from foods other than breastmilk. Mothers of children aged 6 – 23 months were enquired about the number of times their child ate semi-solid or solid foods ((including snacks) the previous day. Based on the responses received, the Minimum Meal Frequency has been calculated as a combination of proportion of breastfed children between 6-23 months who received 3 or more meals and proportion of

Figure 5.9 Proportion of children who had Minimum Meal Frequency
(Base: Children aged 6-23 months, N=70)



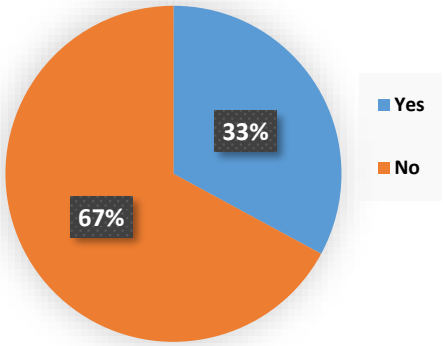
non-breastfed children between 6-23 months who received 4 or more meals during the previous day.

As evidenced in figure 5.9, around **three-fourths (76%) of the children belonging to this age group had the recommended minimum meal frequency.**

5.8. MINIMUM ACCEPTABLE DIET

Definition: ***Minimum Acceptable Meal (MAD)*** is the proportion of breastfed children aged 6–23 months who had at least the MDD and the MMF during the previous day.

Figure 5.10 Proportion of Children who had Minimum Acceptable Diet
(Base: Children aged 6-23 months, N=70)



The relationship between sub-optimal feeding practices and malnutrition in children is well-established. Minimum Acceptable Diet is a composite indicator that captures multiple dimensions of food intake in children aged 6 – 23 months to assess their nutritional status. Children aged 6-23 months who had minimum meal frequency and minimum dietary diversity on the previous day forms the numeral for this indicator. Though proportions of children who had MDD and MMF was comparatively high, **only one-third of the children aged 6-23 months had minimum acceptable diet** the previous day of the survey, implying a critical area to be intervened. Since minimum acceptable diet provides a comprehensive understanding about the quality of the diet offered to infants in their crucial stages of life, lower level of its prevalence is further reiterating the fact that the current dietary practices among mothers are far from desirable and extensive interventions will be required to bring about a positive change in this regard.

5.9. SUPPORT RECEIVED BY MOTHERS ON IYCN

Health workers and other community members organize meetings and training for mothers to come together to learn about infant and young child feeding practices. This was also reinforced during in-depth interviews with ASHAs, ANM and AWWs. This section tries to understand the support received by mothers on IYCN practices. Mothers and lactating women were encouraged to recall the number of sessions/trainings they attended or the home visits conducted by frontline workers and the advices they received during these meetings.

Figure 5.11 Kind of support received for IYCN (%)

[Base: All women, N=222]

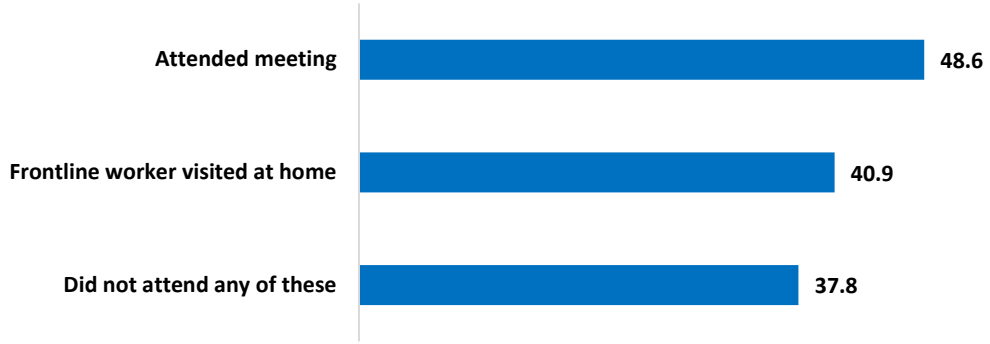
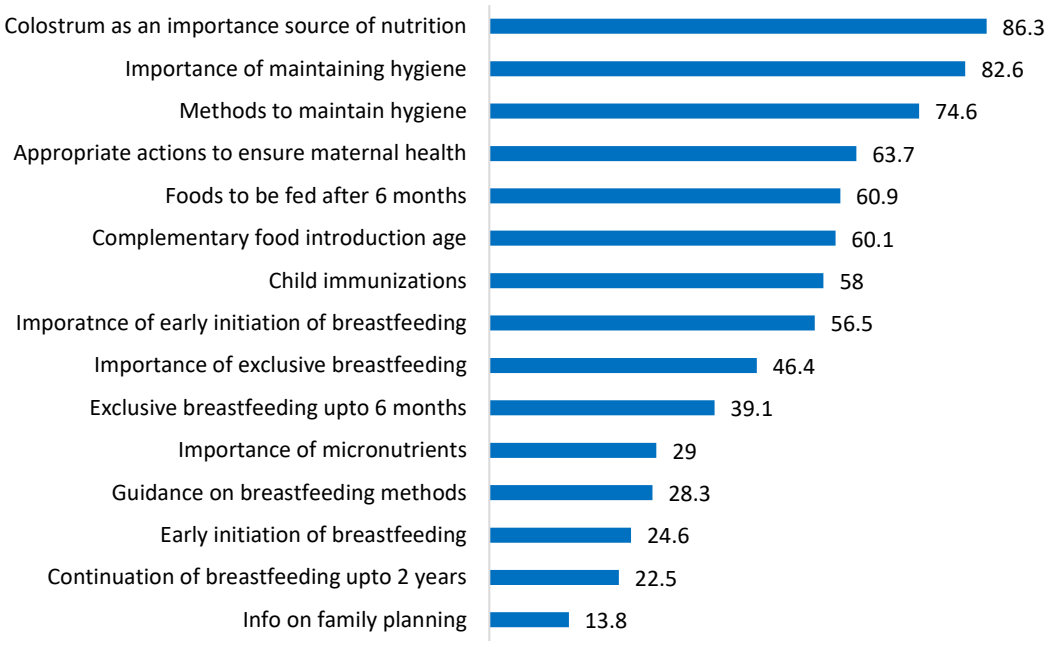


Figure 5.11 shows that majority of the women received support or guidance related to IYCN through multiple ways. Close to half of the respondents (49%) had attended any session on IYCN and two-fifth of them were visited by a frontline worker at home to advise on various feeding practices. However, more than one-third of these women did not receive any guidance as they neither attended an such sessions or trainings nor frontline worker visited them. The number of sessions and home visits ranged from 1 to 10 with the average being 1 and 3 for sessions and visits respectively.

Figure 5.12 Advices received during meetings/visits/trainings

[Base: Women attended at least one meeting/training/visit]



Respondents were also queried about the frontline worker who advised them on IYCN practices. A large proportion of women (86%) said it was Anganwadi worker who informed them about IYCN. Other frontline workers mentioned by the mothers were ASHAs (70%) and NGO worker (53%).

Subsequently, these women who attended at least one meeting/training or visited by frontline worker were queried about various advices they received during these sessions. Figure 5.12 tabulates all the different advises these women received. All most everyone were advised on the importance of colostrum (86%) and maintaining hygiene (83%). Around three-fifths were informed on appropriate actions to ensure maternal health (64), what all semisolid or solid foods that can be introduced after 6 months (61%), the right age of introduction of complementary feeding (60%), various vaccinations and the dosage required (58%). Advices like information on family planning and various methods of contraception (14%) was the least mentioned by the respondents.

MATERNAL & CHILD HEALTH AND NUTRITION

CHAPTER 6

Maternal and child health is an important public health affair to almost all the public health systems around the world. Evidence across the world show that increasing access to quality preconception (before pregnancy), prenatal (during pregnancy), and inter-conception (between pregnancies) care can lead to reduced risk of maternal and infant mortality and pregnancy-related complications. Moreover, healthy birth outcomes and early identification and treatment of developmental delays and disabilities and other health conditions among infants can prevent death or disability and enable children to reach their full potential. Maternal and child health interventions in the form of antenatal care, skilled attendance during delivery, postnatal care and family planning, growth monitoring and immunization interventions are among the most cost effective and lifesaving investments in public health. It is believed that if adequate care is offered to delivering mothers and their new-borns during these stages, it will eventually reduce maternal and child mortality to a significant extent. India also has many policies and programs that are implemented to improve the overall wellbeing of mothers and children. This section deals with some of the factors that can affect and shape maternal and child health that were explored as part of the baseline survey in the study area. Main focus of this chapter revolves around aspects of maternal nutrition and child immunization.

6.1 MATERNAL NUTRITION

Pregnant women, lactating women and women in reproductive age generally require nutrient dense food intake because of the physiological demands of pregnancy, lactation and menstruation. The amount of nutrient intake is directly proportional to self-health status, as well as growth and development of the foetus/infant. Outside of pregnancy and lactation, other than for iron, requirements for these women include a more nutrient-dense diet. In order to get a glimpse of the nutritional status of women of reproductive age in the slum area, the aspect of dietary diversity among the respondents of the current study was explored.

(A). Food Group Diversity among Women

All respondent women were asked if the previous day was a nutritionally representative day. And women who had a typical day was asked to mention all the kinds of food (and their ingredients) they ate in the past 24 hours. The research investigators then grouped the ingredients of the food items mentioned by the respondents into 10 food categories which are mentioned in Table 6.1. Few women who mentioned the previous day not a