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**Summer Training At
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New Delhi, India**

(01st April 2015-31th May 2015)



**Assessment of nutritional status of children under five years of
age in PAG areas of CRY**

By

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Under the Guidance of

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CERTIFICATE

This is to certify that project titled "Assessment of nutritional status of children under five years of age in Public Action Group Areas (Sanjay Camp , Dwarka , Dakshinpuri) of CRY Child Rights & You), Delhi, has been done entirely and submitted by Dr. Neha Garg, a student of Masters of Business Administration in Hospital and Health Management 19th Batch from Institute of Health Management and Research , Jaipur.

The study project was prepared during summer training period from 1st April 2015 to 31st May 2015. This is her original work.

I wish her success in all her future endeavours.



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1st June, 2015

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Dr. Neha Garg interned with CRY from 1st April 2015 to 31st May 2015.

As an intern, Neha designed and implemented the Malnutrition Study – a field-based assessment of the nutritional status of over 300 children between 0-5 years in 3 neighborhoods in Delhi. The study also included a KAP (Knowledge Attitude Practice) component with their mothers to understand their health-seeking behavior. She has been very proactive, forthcoming and hardworking on this assignment.

We found Neha to be a good leader and extremely meticulous with a lot of attention to detail. She was always willing to learn and conducted the fieldwork very diligently. We hope that this experience has helped sharpen her overall understanding on child health and enable her to perform very well in any similar future assignments and remain an advocate of child rights.

We trust that she will continue to keep in touch with CRY and work towards the building of a Child Rights movement.

We wish her all the Best!

Veena Jayaram,
Manager - Research & Documentation

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PREFACE

The MBA (hospital and health management) course is well structured and integrated course of business studies. The main objectives of practical training at MBA level is to develop skill in students by supplement to the theoretical study of business management in general. Professors give us theoretical knowledge of various subjects in the institute. But we are practically exposed of such subjects when we get the training in the organization. It is the training through which we come to know that what an organization is and how it works. During this whole training I got a lot of experience and came to know about management practices in real that how it differs from those of theoretical knowledge and the practically in the real life.

During my training period I had an overview of various programmes undertaken in Child Rights and You, New Delhi including the current status of the programmes. I also carried out a small study on-

Assessment of nutritional status of children under five years of age in Public Action Group Areas of CRY

I have tried to put my best effort to complete this task on the basis of skill that I have achieved during my studies in the institute.

ACKNOWLEDGEMENT

At the onset of the report I would like to express my special gratitude and appreciation for my college authorities for allowing me to pursue my summer internship from CRY(child rights and you), Delhi.

I would also like to acknowledge with much appreciation the crucial role of Miss Veena Jayaram, Manager – Research and Documentation , who despite of other pre occupations and busy schedule was there to guide me and whose stimulating suggestions and encouragement helped me complete my training.

This training wouldn't have been completed without a substantial support from Mr Santosh ,Miss Latika Nayar and Mr Darshan of the Research and Volunteer action team and a great number of people so I would like to thank all the consultants in various departments and other staff members at CRY for being so helpful all the time and making this summer training project an unforgettable experience.

A special thanks to Miss Komal Ganotra and Miss Suneedhi and Miss Anju of community volunteering team of Action India for guiding me throughout my field visit.

Finally, and most importantly, I would like to thank God for allowing me to complete my project, my beloved parents for their blessings and my friends for their help and wishes for the successful completion of this training.

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ABBREVIATIONS

ABBREVIATION	FULL FORM OF ABBREVIATION
APL	ABOVE POVERTY LINE
BPL	BELOW POVERTY LINE
CRY	CHILD RIGHTS AND YOU
CSR	CORPORATE SOCIAL RESPONSIBILITY
CCSR	CRY'S CORPORATE SOCIAL RESPONSIBILITY
FULL	FIGHT UNDERNOURISHMENT LITTLE BY FULL
ICDS	INTEGRATED CHILD DEVELOPMENT SCHEME
IMNCI	INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESS
MWCD	MINISTRY OF WOMEN AND CHILDHOOD DEVELOPMENT
NRC	NUTRITIONAL REHABILITATION CENTRE
NCPCR	NATIONAL COMMISSION FOR PROTECTION OF CHILD RIGHTS
NHRC	NATIONAL HUMAN RIGHTS COMMISSION
PRAD	POLICY RESEARCH ADVOCACY AND DOCUMENTATION
SCPCR	STATE COMMISSION FOR PROTECTION OF CHILD RIGHTS
SNP	SPECIAL NUTRITION PROGRAM
RTE	RIGHT TO EDUCATION

INTRODUCTION

CHILD RIGHTS AND YOU(CRY), New Delhi

BACKGROUND

This Framework for Implementation lays out the broad principles and strategic directions of the Child rights and you(CRY) which aims for a happy, healthy and creative child whose rights are protected and honoured in a society that is built on respect for dignity, justice and equity for all

It's a Non Governmental and Non Profitable Organizations which was established to uplift thousands of Indian children denied basic children's rights. It's also most commonly termed as Child Relief and You which aims to restore Children's rights in India.

Child Rights and You UK Limited is formally registered in the UK.CRY has won in the Large NGO category at Indian NGO awards 2007 after a thorough process of evaluation, field visits and multilevel audits

ORIGIN AND HISTORY

CRY is the brainchild of Late Mr Rippan Kapoor, who with his qualities of resourcefulness and determination came to the forefront for child rights and started CRY with Rs. 50/- around Rippans mothers dining table along with 6 of his friends. That was 29 years ago, in 1979. They felt that something needed to be done to improve the situation of the underprivileged Indian child.

They opted to make CRY a channel or a link between the millions of individuals who could provide resources (in the form of donations) and the thousands of dedicated fieldworkers who were struggling to function for lack of them

VISION OF CRY

- To enable peoples collectives and movements encompassing diverse segments, to pledge their particular strengths, working in partnership to secure, protect and honour the rights of India's children.
- Enable people to discover their potential for action and change.
- To motivate them to seek resolution through individual and collective action thereby enabling children to realise their full potential.
- To enable people to take responsibility for the situation of the deprived Indian child

MISSION OF CRY:

To enable people to take responsibility for the situation of the deprived Indian child and so motivate them to confront the situation through collective action hereby giving the child and themselves an opportunity to realize their full potential. To work in partnership with individuals and organizations, and support them financially/non-financially as well as with people from all walks of life, who believe in the rights of children. Within CRY too, each function works in unison towards ensuring the vision of equal rights for all children

CORE VALUES

The Organization is mainly focuses on 4 basic rights, which is categorized as Survival, Development, Protection and Participation

The CRY is built on certain "Foundation Principles" which confers the following basic rights on all children across the world, without any discrimination:

- * Survival: The right to survival, to life, health, nutrition, name and nationality.
- * Development: The right to development of education, care, leisure, and recreation.
- * Protection: The right to protection from exploitation, abuse and neglect.
- * Participation: The right to participation in expression, information, thought and religion.

CRY works to ensure these rights to all categories of children, who could be street children, children bonded in labor, children of commercial sex workers, physically and mentally challenged children and children in juvenile institutions, or even children in privileged homes.

Illiteracy, malnutrition, female foeticide and child labour are symptoms of deeper problems like lack of livelihoods, caste, gender bias and other similar issues. By addressing these root causes, foundation works to eliminate the visible symptoms

GUIDING PRINCIPLES

SURVIVAL:

The Right to survive with adequate nutrition and quality health care services, citizenship and a wholesome family life

CRY, in partnership with local NGOs ensures that Primary Health Centers are functional, pre and post-natal care services are available, immunization camps are organized.

PROTECTION:

The right to be protected entails that all children be nurtured and protected from harmful influences, abuse and exploitation in any form and have a caring, secure family.

By mobilizing communities to ask for minimum wages and avail of government schemes like employment guarantee schemes, so that they do not have to send their children to work. Thus by demanding for an accountable governance, creating a safer environment for India's children.

DEVELOPMENT :

The right to let a child develop fully through free, equal and quality education, recreation and a supportive environment.

CRY, along with its alliance partners, lobbies for policy- level changes to ensure that children have access to quality, free and equal education; ensures that children attend bridge classes or non-formal educational centers and are admitted into government schools with functional infrastructure.

PARTICIPATION :

The right to freedom of thought, opinion, religion, expression and action without social or gender All children shall enjoy their fundamental rights. Works towards ensuring this by providing a canvas for expression – forming children’s groups, enabling motivation and opportunities at various levels to explore their potential.

GOALS AND STARTEGIES :

- **Increased access to free equitable primary health care for mothers and children such that children survive , grow and develop healthy.**

POLICY GOALS: Advocate for right to health as a fundamental right

OPERATIONAL GOALS: ensure access to free primary health care in our operational areas for mothers and children

Significant reduction in IMR, CMR,MMR and maternal and child morbidity in our operational areas.

Formulation of CRY’s recommendations on budgetary allocation for improved ICDS

- **Contribute towards creating a protective environment for children that is free from violence, abuse and exploitation**

POLICY GOAL: ensuring child protection as a national priority with significant increase in budgetary allocation and effective implementation of policies for child labour act, child trafficking and child marriage.

OPERATIONAL GOAL: ensuring reduction in incidence of child labour, child trafficking and child marriage and development of understand towards cases of female foeticide.

- **Universal access to free equitable quality education in the age group 0-18 years**

POLICY GOAL: clear definition of quality paramenters(inclusion of 0-6 years) and 15-18 years) and advocating for adequate budgetary allocation.

OPERATIONAL GOAL: 100% enrollment and retention of children in schools in the operational areas to ensure provision of quality education/

Formulation of CRY’S recommendation on ECCE

Representation of children's perspectives and interests in RTE act.

INTRODUCTION OF THE PROJECT ON NUTRITIONAL STATUS OF CHILDREN UNDER 5 YEARS OF AGE IN THREE PAG AREAS OF CRY

The project given by CRY was a research survey on nutritional status of Children under 5 years of age , as a part of detailed study on early childhood nutrition to understand the Knowledge ,Attitude and Practices of young mothers about early childhood nutrition .

The survey was carried out in three Public Action Groups Areas of CRY .

1. Sanjay Camp
2. Dwarka
3. Dakshinpuri

NUTRITIONAL INDICATORS USED TO MEASURE MALNUTRITION

Underweight: Under-weight refers to low weight-for-age (when compared to national or international standards), when a child can be either thin or short for his/her age. This reflects a combination of **chronic and acute malnutrition**.

Stunted(low height for age) and **underweight** children are most likely to suffer from impaired development and are more vulnerable to disease and illness and can be depicted by plotting on growth chart.

Wasted: Wasted refers to low weight-for-height (when compared to national or international standards,), where a child is thin for his/her height but not necessarily short.

Also known as **acute malnutrition**, this carries an immediate increased risk of morbidity and mortality with a risk 5-10 times higher than normal children.

Based on anthropometric criteria¹, acute malnutrition can be divided into severe or moderate. Children with acute malnutrition need immediate medical attention. A child suffering from severe malnutrition is at risk of dying if not treated immediately .

CLASSIFICATION OF MALNUTRITION IN CHILDREN:

Anthropometry is used extensively for detecting various subclinical forms of PEM. Various methods have been suggested for classification of PEM in children. These are based on body weight alone or in with standing height or recumbent length. Some of these classifications are

- Gomez's classification
- Wellcome classification
- Waterlow classification²
- Indian Academy of Pediatrics (IAP) classification
- Z score and Standard Deviation classification

Growth charts based on this are used extensively in the largest national nutrition programme, The Integrated Child Development Services (ICDS) *for growth monitoring of children.

The Z score or SD classification system: There are three different systems by which a child or a group of children can be compared to the reference population; Z-scores (standard deviation scores), percentiles, and percent of median.

¹ WHO Child growth Standards; length/height for age, weight for age, weight for height, weight for length, weight-for height and body mass index for age : methods and development. Geneva; World Health Organisation 2006

² Waterlow, J.C. & Alleyne, G.A.C. Protein malnutrition : advances in knowledge in the last ten years .Advances in protein chemistry 25:117-241(1971).

For population based assessment-including surveys and nutritional surveillance-the Z-score is widely recognized as the best system for analysis and presentation of anthropometric data because of its advantages compared to the other methods.

The Z-score system expresses the anthropometric value as a number of standard deviations or Z-scores below or above the reference mean or median value. A fixed Z-score interval implies a fixed height or weight difference for children of a given age. For population based uses, a major advantage is that a group of Z-scores can be subjected to summary statistics such as the mean and standard deviation. The formula for calculating the Z-score is:

$$\text{Z-score (or SD-score)} = (\text{observed value} - \text{median value of the reference population}) / \text{standard deviation value of reference population (WHO 1995)}.$$

SD classification for weight for age

Weight for age criterion	Grades of under nutrition
>Median -2 SD	Normal
<Median -2SD to Median -3 SD	Moderate
<Median -3 SD	Severe

Table 1–SD Classification for weight for age

TYPES OF MALNUTRITION:

- Protein energy malnutrition **ACUTE PROTEIN ENERGY MALNUTRITION:** It refers to moderate and severe wasting and nutritional edema, which is a symptom of kwashiorkor. It occurs as a result of lack of nutrients in body
- **CHRONIC ENERGY MALNUTRITION :** It is manifested by stunting which means short height or length for age It occurs as a result of lack of proper intake of food or due to illness for a long period of time

- **CALORIE MALNUTRITION:** This is seen in children who are given insufficient energy providing nutrients such as carbohydrates & fats.
- **MICRO NUTRIENT MALNUTRITION** It is caused due to lack of essential vitamins and minerals required in small amounts by the body for proper growth and development . These include: vitamins A, B, C and D • Calcium • Iodine • Iron • Zinc

PROBABLE REASONS FOR MALNUTRITION:

- **Poverty and hunger:**Widespread poverty resulting in chronic and persistent hunger is the single biggest scourge of the developing world today. The physical expression of this tragedy is the condition of under- nutrition which manifests itself among large sections of the poor, particularly amongst the women and children. Under nutrition is a condition resulting from inadequate intake of Food or more essential nutrients resulting in deterioration of physical health. The inadequacy in the food & nutrients needed to maintain good health reduces work capacity and productivity amongst adults and enhances mortality and morbidity amongst children. • Such reduced productivity translates into reduced earning capacity, leading to further poverty, and the vicious cycle goes on. **The Vicious Cycle of Poverty** Low intake of food and nutrients- Under nutrition Stunted development -Small body size of adult- Impaired productivity -Low earning capacity
- **Disease exposure:**Increased exposure to diseases like respiratory infections , diarrhea, fever, malaria which have been claimed to be top most reason for deaths in childhood. Acute respiratory illnesses, such as pneumonia, are the largest single cause of death in children under five. 1in every10 child of less than 5 years of age is found to be suffering from diarrhea. India's contribution of DALY's to diarrhea is largest in the world which is about 13.6M DALY's whereas china contributes a meager 3.9 M. 150,622 deaths in India can be attributed to diarrhoeal diseases.
- **Public Distributive System:** An equitable food distribution, through the expansion of the public-distribution system isn't ensured. The PDS isn't ensuring availability of

essential food conveniently and at reasonable prices to the public. Fair price shops aren't opened in adequate number in all areas.

- **Natural Calamity & Poverty:** Rural landless poor is most vulnerable to floods and famines. No special fund or money is given to them after a natural calamity nor is their land or property funded under the law "ACT OF GOD" Once hit by poverty it is very difficult to come out from the vicious poverty cycle.
- **Food Adulteration:** Adulteration is widely practiced when supply is less than demand, to cut down the product cost & to meet the market competition and to earn more profits..
- **Inadequate Knowledge and improper practices:** Mothers aren't briefed about the diet they have to intake and give to their children. Healthy food must be encouraged during lactation period to the mother. No proper knowledge on breastfeeding practices, complementary feeding and nutrition and protein content of food leads to malnourished mothers as well as wasted, stunted and improperly nourished children.

PREVALENCE OF CHILDHOOD UNDERWEIGHT, STUNTING AND WASTING

In India, the proportion of children under five years of age who are **underweight** ranges from 20 percent in Sikkim and Mizoram to 60 percent in Madhya Pradesh. Also, more than half of young children are underweight in the state of Jharkhand and Bihar. Other states where more than 40 percent of children are underweight are Meghalaya, Chhattisgarh, Gujarat, Uttar Pradesh and Orissa. In Meghalaya, Madhya Pradesh and Jharkhand, more than one in every four children is severely underweight (NFHS 3³).

India with an estimated prevalence of 51% of the children under 5 as stunted, has more than 61 million stunted children, 34% of the global total; however, the prevalence varies substantially by state within India (NFHS 3). Within countries the prevalence of stunting.

³ International Food Policy Research Institute, (2007), *National Family Health Survey (NFHS-3), 2005–06: India*, Vol. 1, International Institute of Population Sciences, Mumbai

is generally highest for the poorest segments of the population (World Bank 2003)⁴.

The global estimate of **wasting** (weight-for-height Z score of less than -2) is 10% 55 million children) South-central Asia is estimated to have the highest prevalence (16%) and numbers 'affected (29 million). The same regional pattern is seen for severe wasting (weight-for-height Z score of less than -3), often used as a criterion for therapeutic feeding interventions, with a prevalence of 3.5% or 19 million children. The highest percentages of children with severe wasting are seen in south-central Asia and middle Africa. Of the 36 countries with 90% of stunted children, the prevalence of severe wasting varies from 0.1% to 12%. In India, the prevalence of wasting is high in Madhya Pradesh (35 percent), Jharkhand (32 percent) and Meghalaya (31 percent) (NFHS 3).

NEED OF STUDY:

Multiple and interrelated determinants are involved in child under-nutrition and this national nagging challenge requires a series of tailored multi-sectoral and multi-disciplinary strategies to have a visible impact. However without proper identification of the risk factors, appropriate measures cannot be developed. The problem of under-nutrition has to be seen beyond the paradigm of poverty, food insecurity, repeated infections and limited access to quality health and social services. Several factors that negatively impact child under-nutrition have already been identified. The predisposing factors of severe under-nutrition like the educational level of parents, women's status and decision making power in the family, domestic violence, attitudes and awareness of the mother towards feeding, birth order of the child, gender bias in favor of males, the health seeking attitudes and behavior of the family, especially that of mothers are some of the social factors that may affect child's nutrition in India.

It is very essential to look at malnourishment through multiple angles at level of different stakeholders and to initiate immediate intervention plans .

⁴ World Bank (2003), *World Development Indicators 2003*, World Bank, Washington DC.

Recently CRY conducted a research survey on AWC to know how an AWC actually works and to identify the gaps between policies and reality. Major focus in the survey was given to nutrition, infrastructure & the pre school education that a AWC promises to fulfill. AWCs of the following locations were surveyed- Dwarka , Madangiri,Dakshinpuri & Sanjay camp, Seemapuri. 115 AWC were surveyed . The present research study is conducted to the validate the findings of the report and generate valuable statistical data for advocacy and action for the local CDPO.

Review Of literature

- **THE AWC'S SURVEY REPORT by CRY** was a research survey on anganwadi in dwarka, madangiri, dakshinpuri , sanjay camp and seemapuri areas of new delhi to know how an AWC actually works & what are the gaps between the actually stated things & the reality that takes place in the AWCs. Major focus was given to nutrition, infrastructure & the pre school education that a AWC promises to fulfill. Primary data was collected through a questionnaire on the basis of the notes prepared through observation & by asking appropriate questions to the AWC teacher, helpers & community members.

The study found that just 30 percent of children under six were covered by the Integrated Child Development Scheme (ICDS) - a massive state-run scheme to feed children of poor families in these areas. There is no or very less teaching taking place at the AWC. The children just sit there and wait for the time when they will get the meal and after that they leave. Hardly any pregnant or lactating mothers visited

the centre for education , food or counseling. Many of the anganwadis were non functional due to limited financial help provided by the government. The anganwadi's themselves did not adhere to the proper sanitation protocols and majority of them did not have toilets. Due to this, it was found in the study that there was limited health awareness prevalent among the mothers in these locations. Even though the awareness and services of AWCs has improved over time but still the people benefiting from it remains less in comparison to people who are enrolled for such services.

- A REPORT ON CHILDREN IN INDIA -A Statistical Appraisal, Ministry of Statistics and Programme Implementation, GoI):** Malnutrition in India has been called 'The Silent Emergency'. The proportion of under nutrition among children and women in India is one of the highest in the world. 42.5 % of children under five years of age are underweight. Also, the general progress of nutrition indicators – weight and height is sluggish. Nearly 40 percent in the age group of 0-3 years continue to be underweight. The proportion of undernourished children over the six year period from 1998-99 to 2005-06 remained virtually the same. The physical indicators of stunting among children declined during this period from 51 percent to 45 percent. This decline is excruciatingly slow at about one percentage point per year. Children under the age of two years represent the most vulnerable group and deserve special attention. In spite of unprecedented economic growth, improvements in childhood nutritional status in India over the last decade have been slow. Suboptimal infant and young child feeding practices in particular continue to be a serious challenge to reducing malnutrition among children. High rates of maternal under nutrition measured by low body mass index and anaemia adversely affect the health and survival of mothers and newborns. In contrast to other development indicators, several indicators of malnutrition are on the increase, including anaemia and wasting..
INTERSTATE VARIATIONS:. Prevalence of children who are underweight has increased in eight states (Assam, Arunachal Pradesh, Bihar, Haryana, Jharkhand, Madhya Pradesh, and Mizoram) Three states (Bihar, Jharkhand and Madhya Pradesh) indicate that 50 percent of children are underweight. Disaggregation of underweight statistics by demographic and socio-economic characteristics indicates that the prevalence is higher in rural⁵ (45.6%) areas than in urban (32.7%) areas and among the children of illiterate mothers (52%) than among literate mothers (18-46%) The most at risk children for being underweight continue to be children from poor families, belonging to scheduled castes/tribes, having illiterate mothers and living in rural areas.

⁵ Bhandari L. and S. Dutta (2000), 'Health Infrastructure in Rural India', *India Infrastructure Report 2000*, chapter–11, Oxford University Press, New Delhi.

PEM continues to be a major public health concern and is particularly serious during the post weaning stage⁶ and is often associated with infection. Malnutrition has serious repercussions on

In fact the proportion of clinical cases of PEM in a given community reflects only the tip of the iceberg⁷. For every clinical case there are many more children suffering from sub clinical PEM.

- **A REPORT ON STATE OF WORLD'S CHILDREN 2015 BY UNICEF:**

. The report highlights the status of world's children especially in developing countries and how new ways of solving problems – often emerging from local communities and young people themselves – can help us overcome age-old inequities that prevent millions of children from surviving, thriving and making the most of their potential.

FINDINGS OF REPORT:

79 per cent of the richest children under the age of 5 have their births registered but only 51 per cent of the poorest enjoy the right to an official identity.

And while 80 per cent of children living in cities are registered, this is true for only 51 per cent of those living in the countryside.

The poorest 20 per cent of the world's children are twice as likely as the richest 20 per cent to be stunted by poor nutrition and to die before their fifth birthday.

Children in rural areas are at a similar disadvantage compared to those who live in urban areas. Nearly 9 in 10 children from the wealthiest 20 per cent of households in the world's least developed countries attend primary school – compared to only about 6 in 10 from the poorest households.

Regardless of wealth, girls continue to be held back from schooling. The exclusion is worse in secondary school, where only 76 girls are enrolled for every 100 boys.

Adolescent girls are more likely to be married or in union by age 19 than their male counterparts, and less likely than boys to have comprehensive knowledge of HIV. In

⁶ National Nutrition Monitoring Bureau (2002), *Diet and Nutritional Status of Rural Population*, NNMB Technical Report No. 2, New Delhi.

⁷ World Bank (2009), *World Development Indicators 2009*, World Bank, Washington DC

South Asia, boys are almost twice as likely as girls to have this knowledge with which to protect themselves.

Nearly three quarters (or around 1.8 billion) of the 2.5 billion people around the world who still have no access to improved sanitation live in rural areas.

SOLUTIONS IDENTIFIED:

- **Engaging youth** Young people are finding new ways to participate and claim their rights as innovators.
- **Working with communities** Inclusive and sustainable solutions, by and for local people, are emerging.
- **Adapting solutions** Innovators around the world are closing gaps and crafting solutions tailored to local needs.
- **Reaching all children** Reorienting innovation towards greater equality and the needs of the poorest takes deliberate effort.
- **Rethinking structures** What are the nuts and bolts of delivering innovation to the world's poorest children?

RESEARCH OBJECTIVES :

1. To assess the nutritional status of children under 5 years of age in the 3 PAG areas of CRY.
2. To assess the Knowledge, Attitude and Practices (KAP) related to the nutrition and the health-seeking behavior of mothers (of children under 5 years).
3. To generate content for advocacy and action for the local CDPO.

RESEARCH QUESTIONS:

1. What is the prevalence of malnutrition among children under 5 in the study areas?
2. How does awareness, attitude towards health and nutrition and daily practices of health seeking behavior of mothers (of children U5) affect their children's health?

RESEARCH METHODOLOGY :

Type of data collected: Primary data was collected for the research. The data was collected through a structured questionnaire designed by the interns . The questionnaire was filled in the field (door to door) after careful examination of the child and interrogation of their mothers. The field visits were coordinated by designated community volunteers

Study duration and area: The study was carried on for 2 months in PAG areas of CRY i.e dakshinpuri, sanjay camp and dwarka.

Sample size determination: 280 households (as per under 5 wise population estimation by CRY)

Study respondents: study respondents mainly comprised of mothers of children under 5 years of age in PAG areas of CRY i.e dakshinpuri, dwarka , sanjay camp.

Sample size: 280 Households

- Sanjay Camp = 84
- Dwarka = 100
- Dakshinpuri = 96

Sampling technique Used: Non Random Sampling technique. Snowball sampling was adopted to collect data.

Type of Questionnaire Used: Structured

Work Plan:

S No.	Task	Timeline	Duration
1)	Document study and development of study design and tools	1 st April'15 to 16 th April'15	2 weeks
2)	Field testing of tools ,field study and data collection, data entry	17 th April'15 to 19 th May'15	4 weeks
3)	Data analysis	20 th May'15 to 25 th May'15	1 weeks

4)	Finalization of Data And Presentation	25 th May'15 to 30 th May'15	1 week
5)	Relieved from CRY	30 th May'15	

Table 2 Work Plan of the research study

Data Analysis: Nutritional status of the children was analysed by using WHO anthropolus ,and further analysed using advanced applications of Excel .

DATA ANALYSIS AND RESULTS(SECTION WISE):

Section A

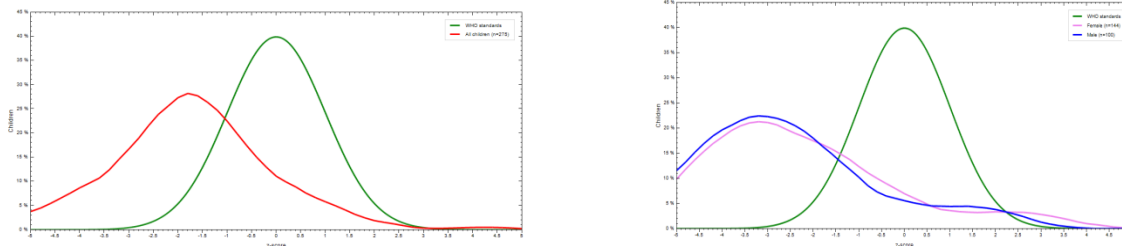
- The survey comprised of 280 Households out of which 57.5% (n=161) girls and 42.5%(n=119) boys were examined for nutritional status . In sanjay camp 84 Households were surveyed in which 35 (41.66%) boys and 49 (58.33%) girls were examined. In Dwarka 100 Households were surveyed in which 45% were boys and 55% were girls whereas in Dakshinpuri 96 Households were surveyed in which 40.6% (39) were boys and 59.3%(57) were girls.

		boys	Girls	total
sanjay camp		35	49	84
Dwarka		45	55	100
Dakshinpuri		39	57	96
	total	119	161	280

Table 3 Distribution of households area and gender wise

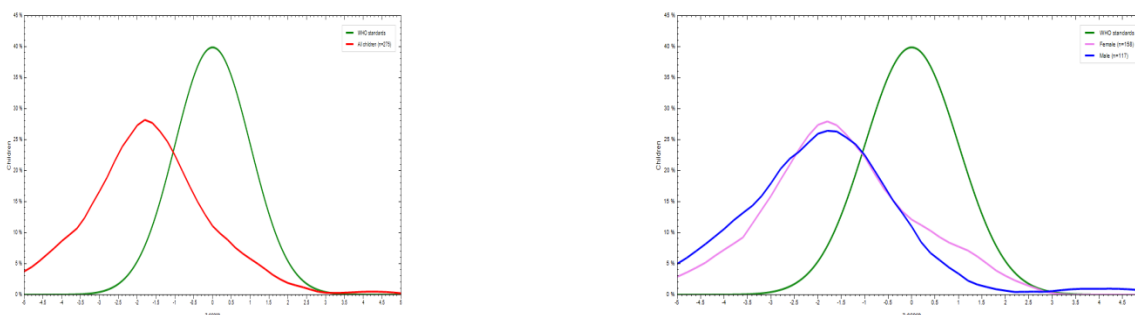
Section B

- When children were studied for weight for age ,an important indicator for acute malnutrition areawise,26% were found to be severely underweight in Sanjay Camp ,19% in Dwarka and 18%in Dakshinpuri . In total 20.7 % of the children were found to be underweight. Below is the comparative Z score growth curve of the study group against the WHO Standard curve .Graph 1 A. shows the comparative spread of the Z scores of the children according to the Weight for Age scores (WAZ).Red curve represents the children group (n =275).Green Line represents the WHO Standard Growth curve.The Second graph further differentiates according to gender,with blue curve representing the boys and pink representing the girls.



Graph 1 A. WAZ Of the children B . Gender wise

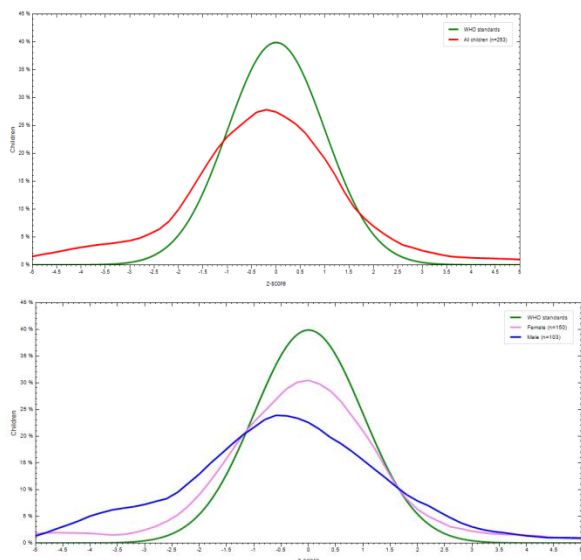
- When children were studied for Height for Age ,an important indicator for chronic malnutrition area wise ,47% were found to be severely stunted in Sanjay Camp ,27% in Dwarka and 27% in Dakshinpuri. In total 48% children were found severely stunted. Below is the comparative Z score growth curve of the study group against the WHO Standard curve .Graph 2 A. shows the comparative spread of the Z scores of the children according to the Height for Age scores (HAZ).Red curve represents the children group (n =275).Green Line represents the WHO Standard Growth curve.The Second graph further differentiates according to gender,with blue curve representing the boys and pink representing the girls.



Graph 2 A. HAZ Of the children B . Gender wise

- When children were studied for Weight for Height ,an important indicator for acute malnutrition area wise ,7% were found to be severely wasted in Sanjay Camp ,9% in Dwarka and 9% in Dakshinpuri. In total 9% children were found severely wasted . Below is the comparative Z score growth curve of the study group against the WHO Standard curve .Graph 3 A. shows the comparative spread of the Z scores of the children according to the Weight for Height scores (WHZ).Red curve represents the children group (n =275).Green Line represents the WHO Standard Growth curve.The Second graph further differentiates

according to gender, with blue curve representing the boys and pink representing the girls.



Graph 3 A. WHZ Of the children B . Gender wise

- Table 4 differentiates the nutritional indicators gender and areawise ,illustrating that Dwarka has lowest nutritional indicators for girls under five years of age.

	Severly underweight			Severly stunted			Severly wasted	
Percentages	boys	girls		Boys	girls		boys	girls
Sanjay camp	11%	14%		21%	26%		4%	2%
dwarka	8%	8%		25%	25%		5%	4%
dakshinpuri	8%	9%		20%	27%		4%	5%
total	10%	10%		22%	26%		1%	3%

Table 4 Nutritional indicators Area and gender wise

SECTION C

- The survey also revealed that 27.38% cases of diarrhoea in children under five years of age were reported in last 6 months prior to the survey in sanjay camp out

of which only 81.48% took treatment .Similarly 23% cases were reported in Dwarka out of which 86.95% took treatment and 27.08% children in Dakshinpuri in which all took treatment .Similarly percentages of reported cases of Pnuemonia,cough and fever were taken and recorded against the percentages of children who took treatment to analyse the contextual evolution of malnutrition . In dwarka 100 households are surveyed in which 23% children suffered from diarrhea in the last six months and 86.9% took treatment for the same,8% children suffered from pneumonia in the last six months and 100% took treatment,12% of children suffered from cough in the last six months and 91.66% took treatment for the same,20% children suffered from fever in the last six months and 80% took treatment for the same.In dakshinpuri 96 households are surveyed in which 27.08% suffered from diarrhea in the last six months and 100% took treatment for the same,2.12% suffered from pneumonia in the last six months and 100% took treatment for the same,6.25% suffered from cough in the last six months and 100% took the treatment for the same,10.41% suffered from the fever in the last six months and 80% took treatment for the same.

Table 5 Comparative Percentage distribution of children suffering from illness and percentage of children who took treatment Areawise

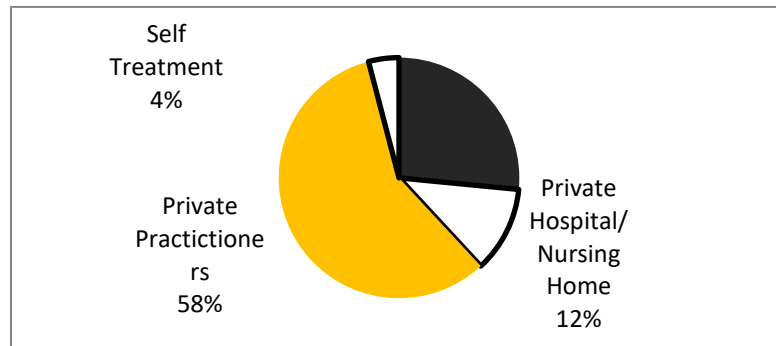
% OF CHILDREN SUFFERING FROM ILLNESS IN LAST 6 MONTHS						% OF CHILDREN WHO TOOK TREATMENT			
	DIARROHEA	PNUEMONIA	COUGH	FEVER		DIARROHEA	PNUEMONIA	COUGH	FEVER
SC	27.38	14.28	15.47	8.33		81.48	100	100	100
DW	23	8	12	20		86.95	100	91.66	80
DKP	27.08	2.12	6.25	10.41		100	100	100	80

- Immunisation status of the children were also recorded and percentages of fully immunised and partially immunised were calculated.

Table 6 –Percentage distribution of children who were fully immunised and non immunised

	Total % of children
Fully immunised	95.35%
Non-immunized	4.64%

- Data depicted from the survey elaborating on health seeking behavior of people as to which kind of facilities they prefer for the treatment of their children.



Graph 4 – Place and treatment for Sickness

NO.	PLACE OF TREATMENT FOR SICKNESS OF CHILDREN	NUMBER
1	Governement Facilities	39
2	Private Hospital/ Nursing Home	17
3	Private Practictioners	85
4	Self Treatment	6

Table 7 Place and treatment of sickness of children

RESULT: As analysed from the data, 58% of the respondents refer their child to private practitioners, 26% to government facilities, 12% to private hospital and nursing homes and 4% of the respondents adhere to self treatment.

SECTION D

- Since the survey also focuses on Knowledge, Attitude and Practices of young mothers and its impact on growth and development of the children, 78.28% mothers were of opinion that breast feeding should be initiated immediately after birth and 30% were of opinion that breast feeding should be started 1 day after birth

Table 8 Percentage distribution of mothers opinion on breast feeding

	% Of mothers of opinion breast feeding
Initiated Immediately	78.28%
after 1 day	30%

- The survey also recorded the variation between the percentage of girls and boys fed with clostrum (first milk) in the three areas against children who were not fed with clostrum at birth making them more vulnerable and prone to infectious diseases.

Table 9 Percenatge distribution of children fed with Clostrum by area and genderwise

	Number of children fed with clostrum(first milk)		Percentage of children fed with clostrum		Number of children not fed with Clostrum		Percentage of children not fed with clostrum	
	Girls	boys	girls	boys	girls	boys	girls	boys
sanjay camp(84)	42	27	50	32	7	5	8	5
dwarka(100)	47	38	47	38	8	6	8	6
dakshinpuri(96)	42	27	43	28	15	12	15	12

Only 81.05% of children under 2 years of age were being breast fed at the time of survey. Only 22 children under 6 months were being breastfed at time of survey. Only 9 out of 22 children (40.9%) were exclusively breast fed children babies. On an average, Exclusively breastfed babies were fed 11 times in the 24 hours prior to survey.

- The survey also recorded their dietary intake 24 hrs prior to the survey .190 out of 280 children had consumed protein rich meals , 215 had consumed carbohydrates rich meals .23 had vitamin A rich meals and 69 consumed Iron rich diet.

SECTION E

- During the survey, mothers of the respondents are assessed for their nutritional status as well. On basis of their weight and height used for calculation of body mass index(BMI) , mothers are classified into underweight, healthy, overweight and obese.

Range classification for BMI is as follows:

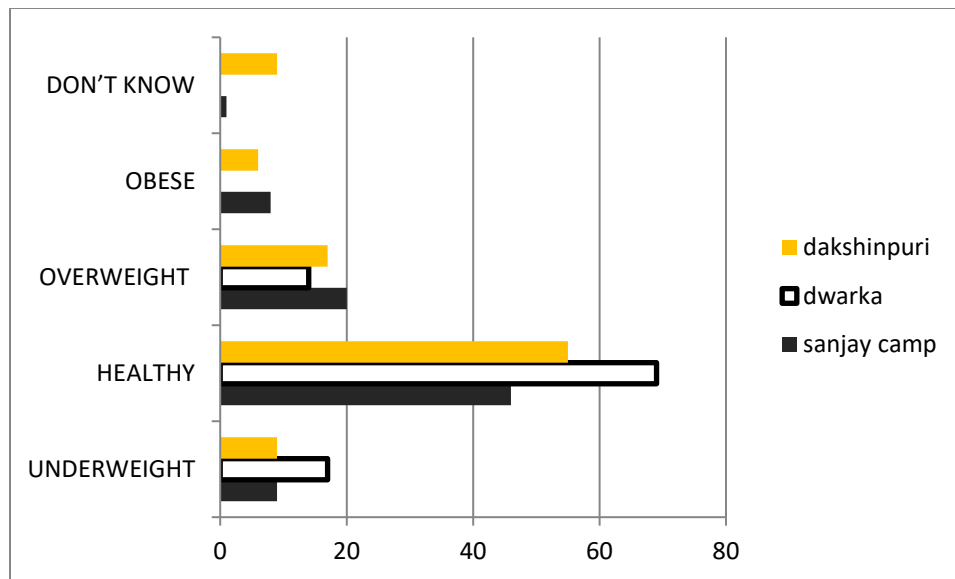
< 18.5	UNDERWEIGHT
>18.5 TO < 24.9	HEALTHY
>24.9 TO <30	OVERWEIGHT
>30	OBESE

Table 10 Range classification for BMI

TOTAL AREA WISE COUNT FOR THE STIPULATED BMI RANGE IS AS FOLLOWS:

	sanja y camp		dwarka		dakshinpur i		total
UNDERWEIGHT	9		17		9		35
HEALTHY	46		69		55		170
OVERWEIGHT	20		14		17		51
OBESE	8		0		6		14
DON'T KNOW	1		0		9		10

Table 11 total area wise count for the stipulated BMI range



Graph 5 total area wise count Of mothers for the stipulated BMI range

- Apart from that, disparity in BMI range with parity status is assessed as follows. Mothers are classified into primipara (mothers with only 1 kid) and multipara (mothers with more than 1 kid) and their BMI status is calculated accordingly.

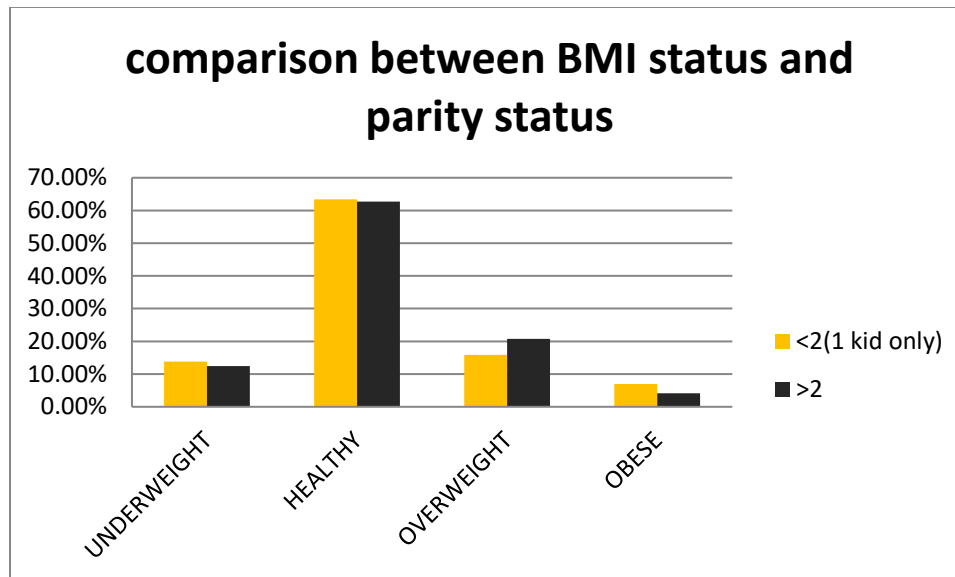
NO: of Children	UNDERWEIGHT	HEALTHY	OVERWEIGHT	OBESE
<2(1 kid only)	13.86%	63.36%	15.84%	6.93%
>2	12.42%	62.72%	20.71%	4.14%

Table 12 BMI range with parity status of mothers

RESULT

(mothers with only 1 kid): % of mothers found underweight is 13.86%, healthy 63.36%, overweight 15.84%, obese 6.93%

(Mothers with more than 1 kid): % of mothers underweight is 12.42%, healthy 62.72%, overweight 20.71%, obese 4.14%



Graph 6 BMI range with parity status of mothers

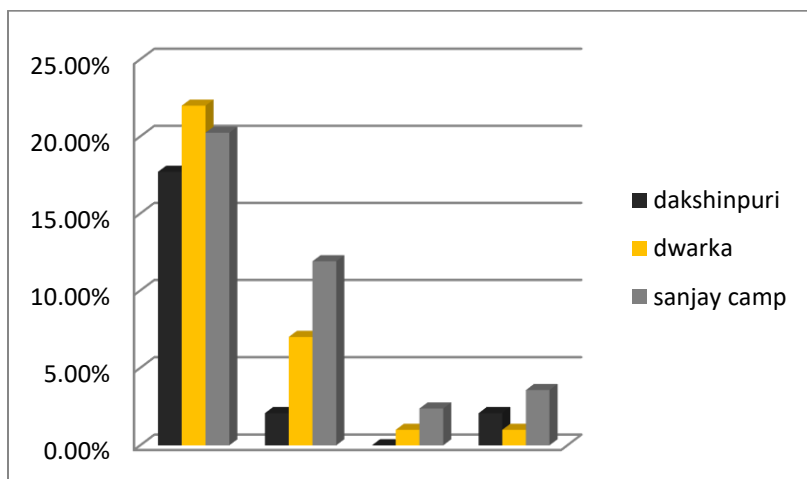
- As observed from the survey , total count of abortions, miscarriages, still births and child deaths in each area as reported by the respondents have been noted as follows.

Table 13 total number of abortions, miscarriages, still births and child deaths in each area

	Percentag e of women who have	Maximum no: of miscarria ges	Percentage of women who have had atleast	Maximu m no: of abortion s	Percentage of women who have had atleast	Percentage who have had child deaths
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	had atleast 1 miscarriage		1 abortion		one Still Birth	
DP	17.71%	2	2.08%	1	0%	2.08%
D	22%	3	7%	2	1%	1%
S	20.24%	3	11.9%	2	2.38%	3.57%
TOTAL	20%		6.99%		1.07%	2.14%

RESULT out of 280 hhs % of women who have had atleast one miscarriage is 20%, % of women who have had atleast one abortion is 6.99% , % of women who have had atleast one still birth is 1.07% and % of women who have had atleast one child death is 2.14%



Graph 7 total no of abortions, miscarriages, still births and child deaths in each area

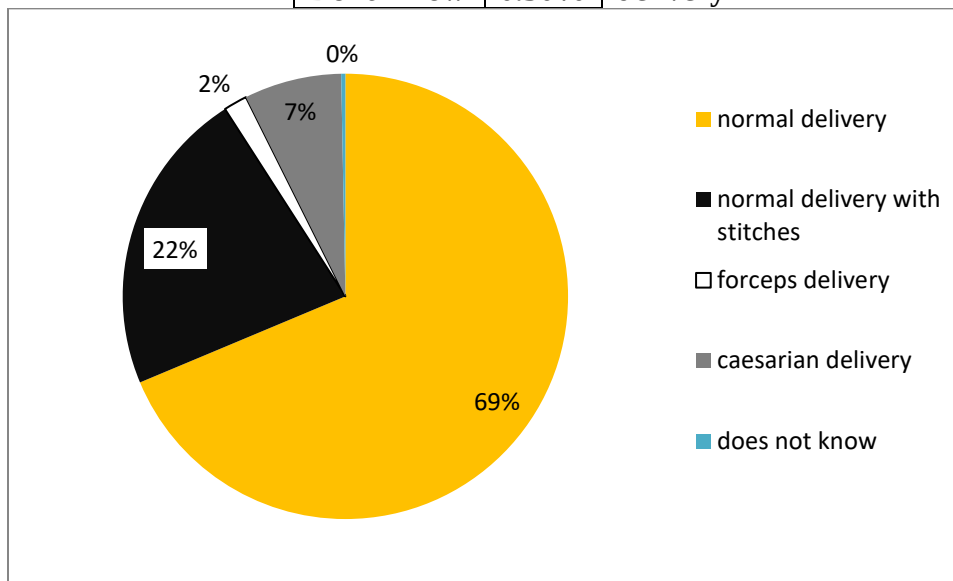
- On basis of survey , classification is made of the type of delivery had by the mothers of children under study

Type Of delivery

normal	68%
normal with stitches	22%

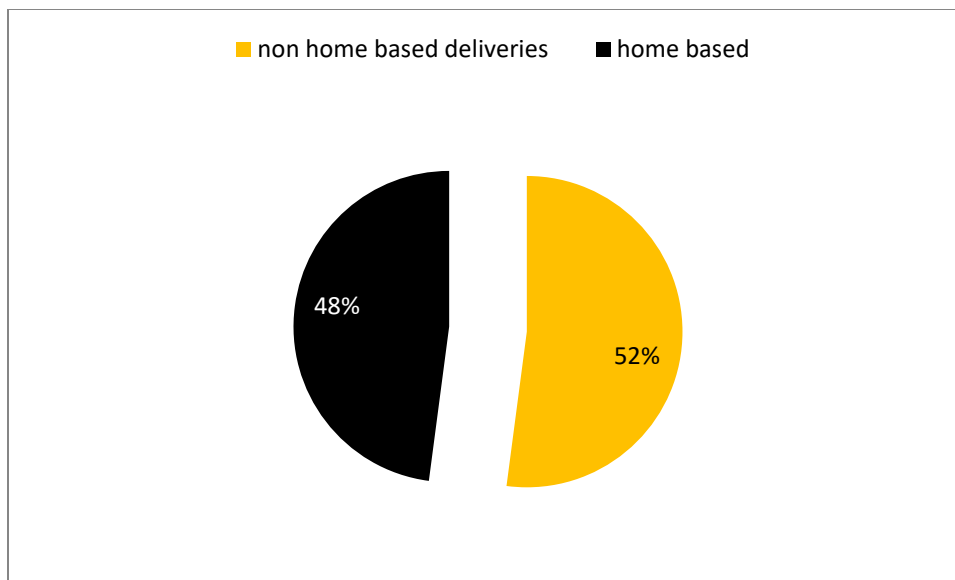
Forceps	1.70%
Caesarian	7%
Dont Know	0.30%

**Table
no 14
Type of
delivery**



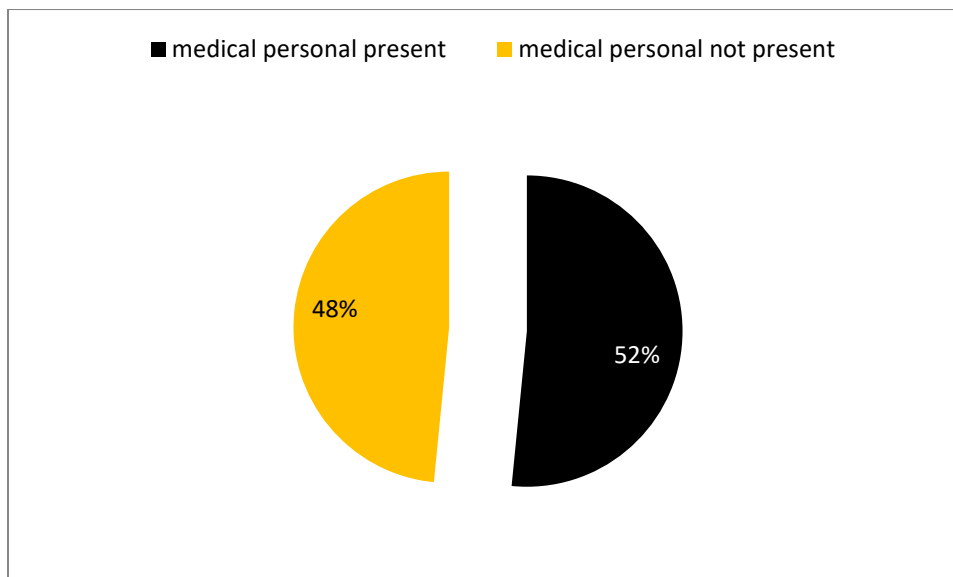
Graph 8 type of delivery

- As observed from the survey, out of 192 deliveries of the normal type, 92 were home based and 100 were non home based(in medical facilities both government and private and nursing homes)



Graph 9 Home based and non home based deliveries

- As observed from the survey, out of 192 normal deliveries, 99 of them were attended by medically skilled persons and 93 of them had not been attended by medically skilled persons



Graph 10 Deliveries attended by medical persons

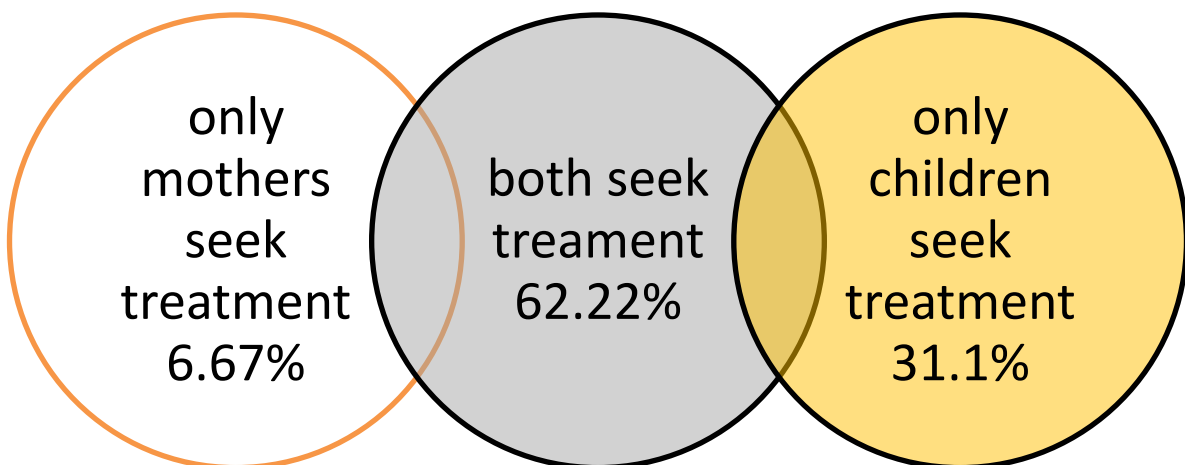
- As observed from the survey, health seeking behavior of both mothers and children has been compared. Out of the incidents, where both mother and children were sick in the time frame of 6 months upto the survey time, their health seeking behavior pertaining to themselves and for their children has been compared.

RESULT

We found that only 6.67% of sick women took treatment for themselves and 31.1% sick children took treatment and if mother and child both are sick then 62.22% of mother and children together took treatment

Mother and Child health seeking Behavior
Table 15 Mother and child health seeking behavior

Only Mother taking treatment	Only Child	Both taken treatment
6.67	31.11	62.22



Graph 11 mother and child health seeking behavior

- Data from the survey depicting disparity in stunting status between opposite siblings (ie when the first child is male and rest of siblings female or when first

child is female and rest of siblings male). Stunting status of each of the child is classified into mild ,moderate and severe on basis of z scores obtained from who antho plus software.

SURVEYED CHILD IS FEMALE(vertical axis) AND SIBLING(s) IS/ARE MALE(horizontal axis)

	MILD	MODERATE	SEVERE
MILD	1	0	3
MODERATE	0	1	1
SEVERE	3	1	2

Table 16 sibling relationship –surveyed child is female and siblings are male

RESULT: when the surveyed female child is mildly stunted, there have been 3 instances where the corresponding male sibling of mildly stunted female child have severe stunting.

On the other hand, there have been 3 instances where where the surveyed female child is severely stunted but the male child is mildly stunted. so these data can demonstrate disparity in stunting status between corresponding siblings.

SURVEYED CHILD IS MALE(vertical axis) AND SIBLING IS/ARE FEMALE(horizontal axis)

	MILD	MODERATE	SEVERE
MILD	0	0	0
MODERATE	0	2	4
SEVERE	3	3	2

Table 17 sibling relationship –surveyed child is male and siblings are female

RESULT: as analysed from the data, there have been instances where the surveyed male child is severely stunted but the corresponding female sibling of the severely stunted male child is mildly stunted in 3 households and moderately stunted in 3 households. So this data depicts disparity in stunting status between siblings of the same household.

SECTION F

- Income vs type of ration card

Income	CARD 1	CARD 2	CARD 3	Dont Know	Not Using	total		card 1 - bpl
less than 6000	20	11	1	4	42	78		card 2 - apl
7000-12000	32	56	1	2	76	167		card 3 antodaya
13000 & above	4	7	1	0	4	16		
Dont know	7	2	0	1	9	19		
						280		

Table 18 Income vs Type of Ration Card

- RESULT: there are 280 hhs surveyed : (hhs having income less than 6000 are 78) out of which 20% hhs are having bpl ration card, 11% hhs are having apl ration card and 1% hhs are having antodaya ration card, 4% hhs are not knowing about the ration card type and 42% are not using any ration card. (hhs having income between 7000 to 12000 are 167) out of which 32% hhs are having bpl ration card, 56% hhs are having apl ration card, 1% hhs are having antodaya ration card, 2% hhs are not knowing about ration card type and 76% are not using any ration card.

(hhs having income 13000 and above are 16) out of which 4% hhs are having bpl ration card, 7% hhs are having apl ration card, 1% hhs are having antodaya ration card and 4% are not using any ration card.

(hhs do not know about their monthly income are 19) out of which 7% hhs are having bpl ration card, 2% hhs are having apl ration card, 1% hhs are not knowing about the ration card and 9% are not using any ration card.

- % of women who were working (areawise)

8 % OF WOMEN WHO WERE WORKING 5% - dont know/refused to answer .3% of women studying					23/280*
					100
					14/280
					1/280
	percentage			number	total
sc	5			five	out of 84
dw	1			one	out of 100
dkp	17.7			seventeen	out of 96

Table 19 percentage distribution of working mothers area wise

RESULT

280 hhs are surveyed:in sanjaycamp (84 hhs) out of which 5% are working mothers,in dwarka (100 hhs) out of which 1% are working mothers, in dakshinpuri (96 hhs) out of which 17.7% are working mothers

•

	% of houses which had their own source of water	% of houses who did not have
DP	79 out of 83 and 13 did not kno	4
D	1 out of 99 n 1 did not kno	98
S	66 out of 84	18

Table 20 Percentage of households having their own water resource

- As observed by the survey ,time taken on an average to fetch drinking water:
 - DakshinpuriP: 14.25 min by 4 Households
 - Dwarka 41.642 min by 98 Households
 - Sanjay Camp : 14.25 min by 18 Households

RESULT

280 hhs are surveyed : (sanjay camp 84 hhs) out of which 18 hhs do not have their own source of water and time taken on an average to fetch drinking water by these hhs is 14.25 minutes.(dwarka 100 hhs) out of which 98 hhs are not having their own source of water and time taken on an average to fetch drinking water by these hhs is 41.642

minutes.(dakshinpuri 96 hhs) out of which 4 hhs are not having their own source of water and time taken on an average to fetch drinking water by these hhs is 14.25 minutes.

-

% of people who use cleansing agent to wash hands

% of mothers who wash hands	
before eating	90%
before feeding the child	1.07%
before cooking	59.64%
after using washroom	79.64%

Table21 Percentage distribution of different occasions while using cleansing agents

RESULT:There are 280 hhs are surveyed (sanjaycamp 84,dwarka 100,dakshinpuri96) out of which % of mothers who use cleansing agent before eating is 90%,before feeding the child 1.07%,before cooking 59.64% and after using washroom 79.64%

- % of hhs who had food insecurity in the 2 months prior to the survey

	SC %	DW %	DKP %
%HH AWARE OF PDS	76	89	79
%HH HAVING RATION CARD	55	51	52
%HH AVAILED PROVISION FROM PDS	48	45	47
%HH WHO USE PDS TO OBTAIN RICE	33	50	14.5
%HH WHO USE PDS TO OBTAIN WHEAT	46	51	48
%HH WHO USE THE PDS PROVISION OBTAIN SUGAR	23	0	3

Table 22 Results of food security questions Area wise

RESULT :total 280 hhs are surveyed,in Sanjaycamp 84 hhs are surveyed out of which which: % of hhs aware of pds is 76% ,% of hhs having ration card is 55%,% of hhs

availed provisions for pds is 48%,% of hhs who use pds to obtain: rice 33%,wheat 46%, sugar 23%.

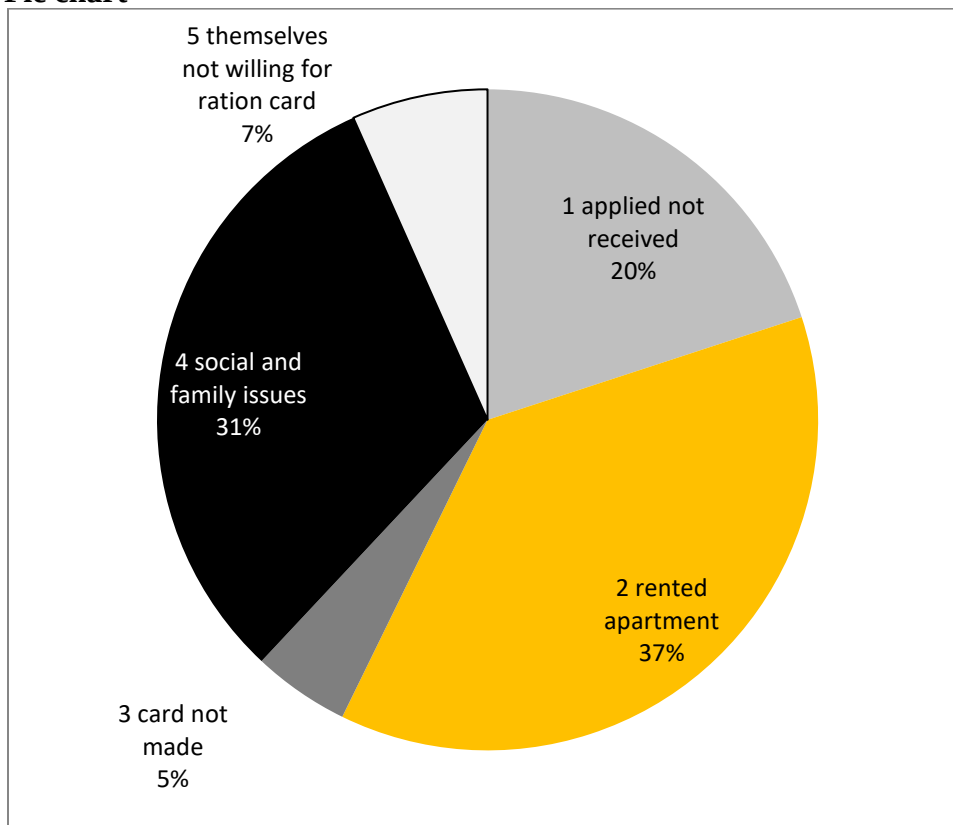
In Dwarka 100 hhs are surveyed out of which : % of hhs aware of pds is 89%,% of hhs having ration card is 51%,% of hhs availed provisions from pds is 45%,% of hhs who use pds to obtain : rice 50%,wheat 51%,sugar 0%.

In Dakshinpuri 96 hhs are surveyed out of which : % of hhs aware of pds is 79%,% of hhs having ration card is 52%,% of hhs availed provisions from pds is 47%,% of hhs who use the pds provisions to obtain: rice 14.5%, wheat 48% sugar 3%

- % of hhs surveyed were not using PDS
- **52.85% of HOUSEHOLDS NOT USING PDS**

REASONS for not using it .

Pie chart



Graph 12 Reasons for not using PDS

RESULT:

There are 280 hhs surveyed(sanjay camp 84, dwarka 100, dakshinpuri 96) out of which 52.85% are not using pds , reasons we found for not using pds are: 37% people are having

rented apartments,31% people have some social and family issues, 20% people have applied for ration card but not yet received,7% people are themselves not willing to have ration card,5% people's card not made .

- Awarenesss and usage of the government /private programs/schemes

	Scheme 1		scheme 2		Scheme 3	
	Awareness	usage	Awareness	Usage	Awareness	Usage
SC	48	37	56	15	15	0
DW	94	84	30	52	10	1
DKP	56	45	22	15	0	0

Table 23 Awarenesss and usage of the government /private programs/schemes Area wise

CONCLUSIONS:

- When children were studied for weight for age ,an important indicator for acute malnutrition areawise,26% were found to be severely underweight in Sanjay Camp ,19% in Dwarka and 18%in Dakshinpuri . In total 20.7 % of the children were found to be underweight.
- When children were studied for Height for Age ,an important indicator for chronic malnutrition area wise ,47% were found to be severely stunted in Sanjay Camp ,27% in Dwarka and 27% in Dakshinpuri. In total 48% children were found severely stunted.
- When children were studied for Weight for Height ,an important indicator for acute malnutrition area wise ,7% were found to be severely wasted in Sanjay Camp ,9% in Dwarka and 9% in Dakshinpuri. In total 9% children were found severely wasted .
- The survey also revealed that 27.38% cases of diarrhoea in children under five years of age were reported in last 6 months prior to the survey in sanjay camp out of which only 81.48% took treatment .
- Similarly 23% cases were reported in Dwarka out of which 86.95% took treatment and 27.08% children in Dakshinpuri in which all took treatment .Similarly percentages of reported cases of Pnuemonia,cough and fever were taken and recorded against the percentages of children who took treatment to analyse the contextual evolution of malnutrition

- . In dwarka 100 households are surveyed in which 23% children suffered from diarrhea in the last six months and 86.9% took treatment for the same,8% children suffered from pneumonia in the last six months and 100% took treatment,12% of children suffered from cough in the last six months and 91.66% took treatment for the same,20% children suffered from fever in the last six months and 80% took treatment for the same.
- In dakshinpuri 96 households are surveyed in which 27.08% suffered from diarrhea in the last six months and 100% took treatment for the same,2.12% suffered from pneumonia in the last six months and 100% took treatment for the same,6.25% suffered from cough in the last six months and 100% took the treatment for the same,10.41% suffered from the fever in the last six months and 80% took treatment for the same.
- 95.35 % Of the children under 5 years of age were found to be fully immunised and 4.64 % of children under 5 years of age were found to be non immunised.
- 58% of the respondents refer their child to private practitioners, 26% to government facilities , 12% to private hospital and nursing homes and 4% of the respondents adhere to self treatment.
- 78.28% mothers were of opinion that breast feeding should be initiated immediately after birth and 21.72% were of opinion that breast feeding should be started 1 day after birth
- Only 81.05% of children under 2 years of age were being breast fed at the time of survey. Only 22 children under 6 months were being breastfed at time of survey. Only 9 out of 22 children (40.9%) were exclusively breast fed children babies. On an average, Exclusively breastfed babies were fed 11 times in the 24 hours prior to survey.
- Out of 280 children, only 190 children had consumed protein rich meals , 215 children had consumed carbohydrates rich meals .23 children had vitamin A rich meals and 69 children consumed Iron rich diet.
- 12.5% mothers were found to be undernourished according to their BMI status and 18.2% of mothers were found to be overweight for their age and 0.05% of mothers were found to be obese for their age according to the survey data.
- Out of 280 households 20% of women have had atleast one miscarriage , 6.99% women who have had atleast one abortion, 1.07% of women who have had atleast one still birth and 2.14 % of women who have had atleast one child death
- Out of 192 deliveries of the normal type, 92 were home based and 100 were non home based(in medical facilities both government and private and nursing homes)
- Out of 192 normal deliveries, 99 of them were attended by medically skilled persons and 93 of them had not been attended by medically skilled persons

- Only 6.67% of sick women took treatment for themselves and 31.1% sick children took treatment and if mother and child both are sick then 62.22% of mother and children together took treatment
- when the surveyed female child is mildly stunted, there have been 3 instances where the corresponding male sibling of mildly stunted female child have severe stunting. On the other hand, there have been 3 instances where the surveyed female child is severely stunted but the male child is mildly stunted. so these data can demonstrate disparity in stunting status between corresponding siblings
- out of 280 households that are surveyed :
- (households having income less than 6000 are 78) out of which 20% households are having bpl ration card, 11% households are having apl ration card and 1% households having antodaya ration card, 4% households are not knowing about the ration card type and 42% are not using any ration card
- (households having income between 7000 to 12000 are 167) out of which 32% households are having bpl ration card, 56% households are having apl ration card, 1% households are having antodaya ration card, 2% households are not knowing about ration card type and 76% are not using any ration card.
- (households having income 13000 and above are 16) out of which 4% households are having bpl ration card, 7% households are having apl ration card, 1% households are having antodaya ration card and 4% are not using any ration card.
- (households do not know about their monthly income are 19) out of which 7% households are having bpl ration card, 2% households are having apl ration card, 1% households are not knowing about the ration card and 9% are not using any ration card.
- Out of 100 households in dwarka, only 1% of women are found to be working .
- Out of 84 households in sanjay camp, only 5% of women are found to be working.
- Out of 96 households in dakshinpuri , only 17.7% of women were found to be working.
- 4% of households in dakshinpuri , 98% of households in dwarka and 18% of households in sanjay camp did not have their own source of water
- 280 hhs are surveyed : IN sanjay camp -84 hhs) out of which 18 hhs do not have their own source of water and time taken on an average to fetch drinking water by these hhs is 14.25 minutes. IN dwarka 100 hhs) out of which 98 hhs are not having their own source of water and time taken on an average to fetch drinking water by these hhs is 41.642 minutes. In dakshinpuri 96 hhs) out of which 4 hhs are not having their own source of water and time taken on an average to fetch drinking water by these hhs is 14.25 minutes.

- There are 280 hhs are surveyed (sanjaycamp 84,dwarka 100,dakshinpuri96) out of which % of mothers who use cleansing agent before eating is 90%,before feeding the child 1.07%,before cooking 59.64% and after using washroom 79.64%
- In Sanjaycamp 84 hhs are surveyed out of which which: % of hhs aware of pds is 76% ,% of hhs having ration card is 55%,% of hhs availed provisions for pds is 48%,% of hhs who use pds to obtain: rice 33%,wheat 46%, sugar 23%.
- In Dwarka 100 hhs are surveyed out of which : % of hhs aware of pds is 89%,% of hhs having ration card is 51%,% of hhs availed provisions from pds is45%,% of hhs who use pds to obtain : rice 50%,wheat 51%,sugar 0%.
- In Dakshinpuri 96 hhs are surveyed out of which : % of hhs aware of pds is 79%,% of hhs having ration card is 52%,% of hhs availed provisions from pds is 47%,% of hhs who use the pds provisions to obtain: rice 14.5%, wheat 48% sugar 3%
- There are 280 hhs surveyed(sanjay camp 84, dwarka 100, dakshinpuri 96) out of which 52.85% are not usng pds , reasons we found for not using pds are: 37% people are having rented apartments,31% people have some social and family issues, 20% people have applied for ration card but not yet received,7% people are themselves not willing to have ration card,5% people's card not made .

CHALLENGES FACED WHILE COLLECTING THE DATA :

- Two months time period was very less to do study.
- Sample sizes is small and the size might not represent the entire universe of the study.
- Bias may be introduced depending on the location used for data collection.
- Language was the barrier during data collection period.

Ethical Considerations

- Confidentiality of the respondents was maintained throughout the study by careful segregation of personal data and assignment of unique survey ID's.
- Respect and dignity of the respondents were taken care during the study and respondents were offered a clear explanation of the study intentions , post which they were asked for approval of participation.
- Information received by the respondents will not be misused in any form.

For research purposes only

Survey ID:

ANNEXURES

Study on Malnutrition

Informed Consent Form

Good _____. My name is _____ and I am from Indian Institute of Health Management Research (IIHMR), Jaipur. I am doing a study on **the Nutritional Status of Children under 5 years** which is supported by CRY's Internship Program. It is an organization that works towards **promoting and protecting children's rights in India**. We are doing this study in **3** areas in New Delhi.

As part of this research, we would be interviewing you for about 20 minutes regarding the health and nutritional status of your child and you. We shall also be doing some basic measurements and health indications of your child to understand his/ her nutritional status. We shall not share any personal information you provide with anyone and participating in this study will not adversely affect you in any way. You can stop the interview at any time or refuse to answer any of the questions if preferred. There may be **no direct benefits** to participating in this study but the results of this will be given to the local authorities in your community who are responsible for providing health and nutritional services to children.

If there are any questions you wish to ask later or if you have any problems, you are welcome to contact me at _____. We hope that you will take part in this study. Do you have any questions?

Are they willing to participate in the study?

1. No ☐ _____ → Thank the respondent for their time and leave.

2. Yes ☐ _____ → Proceed to get signed consent below and administer the survey.

I, the undersigned have understood the consent form above and am willingly agreeable to participate in the study.

Signature of the respondent:

Name of the respondent:

Date:

(In case of an illiterate/ differently-abled respondent, signature from a non-minor witness should be obtained below)

I have witnessed the accurate reading of the consent form to the potential respondent and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Signature of the witness:

Name of the witness:

Date:

Thumb print of the respondent

I have accurately explained the above information sheet to the respondent. I also confirm that they were given an opportunity to ask questions about this study, and all the questions asked by him/her have been answered correctly and to the best of my ability.

Signature of the interviewer:

Name of the interviewer:

Date:

Contact Number of the interviewer:

(Note: One copy of this consent sheet is to be left with the parent/ guardian and one copy should be filed with the researcher).

Section A: Personal Information (To be separated from survey)

A1	Name of the Child									-777 Does Not Know -999 Refused to Answer
A2	Date of Birth of the Child	M	M	D	D	Y	Y	Y	Y	→ Skip to A3
		-777 Does Not Know -999 Refused to Answer								→ Next Question

A2	Age (in completed years)	_____							
		-777 Does Not Know -999 Refused to Answer							
A3	Gender (To be Observed)	1 - Male	2. female	-888 (Other) Specify _____					
A4	Address	House/ Building Number _____ Lane _____ Community/ Area _____ Landmark _____ Pin code _____							
A5	Name of Parents	A5 .1) Name of Father		_____					
				-777 Does Not Know -999 Refused to Answer					
		A5 .2) Name of Mother		_____					
				-777 Does Not Know -999 Refused to Answer					
A6	Religion (Circle Appropriate)	1.Hindu	2.Muslim	3.Christian	4.Sikh	-888 (Other) Specify _____			
		-777 Does Not Know -999 Refused to Answer							
A7	Social background (Circle Appropriate)	1.SC	2.ST	3.OBC Specify (_____)	4.General	-888 (Other) Specify _____			
		-777 Does Not Know -999 Refused to Answer							
INTERVIEW INFORMATION:									
I1	Name of the Interviewer:	_____							
I2	Date of Interview:	M	M	D	D	Y	Y	Y	Y
I3a	Interview Start Time	_____							
I3b	Interview End Time	_____							
I4	Place of Interview	1...Respondent's Home 2...Anganwadi Centre 3...Community Resource Centre -888 Other (Specify _____)							
I5	Signature of Interviewer	_____							
I6	Signature of Scrutinizer 1 Date:	_____		Scrutiny Notes		_____			
I7	Signature of Scrutinizer 2 Date:	_____		Scrutiny Notes		_____			
I8	Type of Quality Check	_____		Done By		Date:			
I9	Quality Check Notes	_____							

Section B : Indicators for Nutritional Status

B1	Weight of the child (in Kgs) (Circle appropriate)	[] [] [] . [] [] kgs 1 Measured on-site 2 Obtained through other sources (specify) _____ -666 Could not observe						
B2	Height of the Child (in cms) (Circle appropriate. If the child is less than 2 years of age, this variable indicates length)	[] [] [] . [] [] cms 1 Measured on-site 2 Obtained through other sources (specify) _____ -666 Could not observe						
B3	Upper arm circumference of the child (in cms) (Circle appropriate)	[] [] [] . [] [] cms 1 Measured on-site -666 Could not observe						
B4	Do you observe any of the following clinical signs in the child (to be observed and enquired if needed) (CIRCLE APPROPRIATE, can have multiple responses)							
B5	EYES	1.Pallor	2.Swelling	3.Dryness		4.Spots/ Discoloration	- 888 Others (Specify) -----	None
B6	ORAL CAVITY	1.Dryness of tongue	2.Bleeding/ swollen gums	3.Ulcers	4.Cracking of lips	5.Discoloured teeth	- 888 Others (Specify) -----	None
B7	HAIR	1.Discolouration of hair		2.Patches of hair fall			- 888 Others (Specify) -----	None
B8	SKIN	1.Dry / parched skin	2. De- pigmentation	3.Eruptions		4.Oedema on legs	- 888 Others (Specify) -----	None
B9	NAILS	1.spots	2.Ridges	3.Discolouration			- 888 Others (Specify) -----	None
B10	ABDOMEN	1.Sunken abdomen		2.Pot belly			- 888 Others (Specify) -----	None

Section C: Medical History of the child									
C1	Has the child suffered from any of the following illnesses in past 6 months? -777 Does Not Know -999 Refused to Answer	1. Diarrhea	2. Pneumonia	3. Cough	4. Worm Infestation	5. Fatigue/ Lethargy	- 888 Others (Specify) -----	- 888 Others (Specify) -----	- 888 Others (Specify) -----
	NONE	→ SKIP TO C5							
C2	How many times in the past 6 months did this illness occur? -777 Does Not Know -999 Refused to Answer	_____	_____	_____	_____	_____	_____	_____	_____
C3	Has the child taken the any treatment for this illness? -777 Does Not Know -999 Refused to Answer	1..Yes 2..No -777 -999	1..Yes 2..No -777 -999	1..Yes 2..No -777 -999	1..Yes 2..No -777 -999	1..Yes 2..No -777 -999	1..Yes 2..No -777 -999	1..Yes 2..No -777 -999	1..Yes 2..No -777 -999
C4	Where was the treatment taken? 1....Hospital 2....Clinic/ Nursing Home 3....Local Doctor 4....PHC -888 (Other) Specify _____ -777 Does Not Know -999 Refused to Answer	_____ Name _____	_____ Name _____	_____ Name _____	_____ Name _____	_____ Name _____	_____ Name _____	_____ Name _____	_____ Name _____
C5	What are the vaccinations/ immunizations that the child has received? PROBES: How many times was the child taken for vaccination/ does the child have BCG scar on the Arm?								
	1.BCG	1...Yes 2...no -888 Others (Specify) _____ --777 Does Not Know-999 Refused to Answer							
	2.OPV (0 dose)	1...Yes 2...no -888 Others (Specify) _____ --777 Does Not Know-999 Refused to Answer							
	3.DPT 1	1...Yes 2...no -888 Others (Specify) _____ --777 Does Not Know-999 Refused to Answer							
	4.DPT 2	1...Yes 2...no -888 Others (Specify) _____ --777 Does Not Know-999 Refused to Answer							
	5.DPT3	1...Yes 2...no -888 Others (Specify) _____ --777 Does Not Know-999 Refused to Answer							
	6.OPV 1	1...Yes 2...no -888 Others (Specify) _____ --777 Does Not Know-999 Refused to Answer							
	7.OPV 2	1...Yes 2...no -888 Others (Specify) _____ --777 Does Not Know-999 Refused to Answer							
	8.OPV 3	1...Yes 2...no -888 Others (Specify) _____ --777 Does Not Know-999 Refused to Answer							
	9.Measles	1...Yes 2...no -888 Others (Specify) _____ --777 Does Not Know-999 Refused to Answer							
	10.Vitamin A dose (in the last 6 months ONLY)	1...Yes 2...no -888 Others (Specify) _____ --777 Does Not Know-999 Refused to Answer							

Section D: NUTRITIONAL ASSESSMENT

D1	Was the child fed with colostrum (first milk) at birth?	1. Yes 2. No -777 Does Not Know -999 Refused to Answer			
D2	Is the child currently being breast fed?	1. Yes		→ Next Question	
		2. No -888 Others (Specify) _____ -777 Does Not Know -999 Refused to Answer		→ Skip to D6	
D3	In the last 24 hours, how many times did you breastfeed your baby?	_____ -777 Does Not Know -999 Refused to Answer			
D4	Was this child ever breastfed?	1. Yes 2. No -777 Does Not Know -999 Refused to Answer		→ Skip to D8	
D5	Is the child fed anything along with Breast milk?	1...Yes		→ Skip to D8	
		2..No -777 Does Not Know -999 Refused to Answer		→ Skip to Next Section	
D6	Yesterday, either during the day or during the night, has the child (<i>name</i>) taken any of the following liquid food? <i>(Include liquid food consumed outside home; record even if the food is given in combination with other food)</i>				
	Type of Liquid Food	Was it consumed?		How many times it was consumed in past 24 hours	
		1...Yes 2...No -777 Does not know -999 Refused to answer			
		Item	Response	Item	Response
D6a	Plain water				
D6b	Juice specify _____				
D6c	Soup/ Gruel				
D6d	Milk (fresh/ powdered)				
D6e	Infant formula				
D6f	Any other liquid, specify _____				

E6	NOTE TO INTERVIEWER: Ask and record here based on the questions E4 and E5 (NOTE: If the respondent is uncomfortable, please do not force)	Number of miscarriages				
		Number of Still Births		Male _____ Female _____		
		Number of abortions		Male _____ Female _____		
		Number of child deaths		Male _____ Female _____		
E7	INTERVIEWER: Based on Response from E5, record age and gender here: -777 Does not know -999 Refused to answer (IMPORANT NOTE: Record weight, height and upper arm circumference for all children between 0-5 years ONLY in the family)		CHILD 1	CHILD 2	CHILD 3	CHILD 4
		Tick the child that was surveyed				
		Age				
		Gender (M/F/Other specify _____)				
		Weight (kg)				
		1..Measured Onsite 2 Obtained through other sources (specify) _____ -666 Could not observe				
		Height (cms)				
		1..Measured Onsite 2 Obtained through other sources (specify) _____ -666 Could not observe				
		Upper arm Circumference (cms)				
		1..Measured Onsite 2 Obtained through other sources (specify) _____ -666 Could not observe				

	To be filled based on number of children recorded in E4				
E8	(INTERVIEWER NOTE: ASK THIS QUESTION ONLY FOR THE CHILDREN RECORDED IN E5) Type of delivery 1 Normal 2 Normal with stitches 3 Forceps(with instrument) 4 Caesarian Section Other (specify) _____ -777 Does not know 999 Refused to answer	CHILD 1	CHILD 2	CHILD 3	CHILD 4
E9	Where was the child delivered? 1...At home 2...At a hospital 3...Clinic/ Nursing home 4...Other medical facility (specify) -888 Other (specify) _____ -777 Does not know -999 Refused to answer Tick the child that is being surveyed	CHILD 1	CHILD 2	CHILD 3	CHILD 4
E10	Who among the following medical staff were present during the birth of the child? 1.....Doctor 2.....Nurse 3....ANMW -888...Others (specify) _____ -777 Does not know -999 Refused to answer				
E11	Have you suffered any illnesses during past 6 months?	1...Yes	→ Next question		
		2....No -777 Does not know -999 Refused to answer	→ Skip to Section F		
E12	How many illnesses/ bouts of illnesses have you had?	_____ -777 Does not know -999 Refused to answer	→ Skip to Section F		
E13	To be filled based on the number of recorded in E12	Illness 1	Illness 2	Illness 3	Illness 4
	How long ago did you have this illness? -777 Does not know -999 Refused to answer	_____ months -888... Others (specify)	_____ months -888... Others (specify)	_____ months -888... Others (specify)	_____ months -888... Others (specify)
E14	Did you take any treatment for the illness?	1...Yes	1...Yes	1...Yes	1...Yes

		2...No -777 Does not know -999 Refused to answer → Skip to next illness	2...No -777 Does not know -999 Refused to answer → Skip to next illness	2...No -777 Does not know -999 Refused to answer → Skip to next illness	2...No -777 Does not know -999 Refused to answer → Skip to next Section
E15	Where did you take the treatment for this illness?	1....Hospital 2....Clinic/ Nursing Home 3....Local Doctor 4....PHC -888 (Other) Specify -777 Does Not Know -999 Refused to Answer	1....Hospital 2....Clinic/ Nursing Home 3....Local Doctor 4....PHC -888 (Other) Specify -777 Does Not Know -999 Refused to Answer	1....Hospital 2....Clinic/ Nursing Home 3....Local Doctor 4....PHC -888 (Other) Specify -777 Does Not Know -999 Refused to Answer	1....Hospital 2....Clinic/ Nursing Home 3....Local Doctor 4....PHC -888 (Other) Specify -777 Does Not Know -999 Refused to Answer

Section F: Socio-Economic Indicators & Food Security

F1	Educational qualification of the mother (Record Highest Educational Level Completed).	_____ -777 Does not know -999 Refused to answer
F2	Educational qualification of the father (Record Highest Educational Level Completed).	_____ -777 Does not know -999 Refused to answer
F3	Educational qualification of the oldest child in the family (Record Highest Educational Level Completed).	_____ -777 Does not know -999 Refused to answer
F4	Current occupation of the mother of the child	_____ -777 Does not know -999 Refused to answer
F5	Current occupation of the father of the child	_____ -777 Does not know -999 Refused to answer
F6	What is the average monthly income of the family? (Probe For all sources of income)	
F7	What is the main source of drinking water for the household? (single response)	1. No facility 2. Own piped water 3. Own hand pump/ tube well 4. Own open well 5. Public Tap Water 6. Public hand pump/ tube well 7. Public open well 8. Surface water (river/stream) 9. Rainwater collection 10. Tanker/Truck 11. Purchased water (Water can, bottled water) -888 Others (Specify)..... -777 Does not know -999 Refused to answer

F8	Where is the source for drinking water located?	1..Inside the house 2..Inside the compound of the house	→ Skip to F10
		3..On the same street where the house is located 4....Elsewhere, away from the house, on a different street or locality -888Others (Specify)..... -777 Does not know -999 Refused to answer	→ Next Question
F9	How long does it take to go there, get water and come back? Express in approximate MINUTES.	_____ -777 Does not know -999 Refused to answer	
F10	Do you do anything to the water/ treat the water before drinking it at home?	1....Yes	→ Next Question
		2...No	→ Skip to F11
F10a	What do you do to the water?	1. Boil 2. Add bleach/ Chlorine 3. Strain it through a cloth 4. Use water filter 5. Solar disinfection 6. Let it stand and settle -888 Others (Specify)..... -777 Does not know -999 Refused to answer	
F10a	Does your family use any cleansing agent while washing hands?	1...Yes	→ Next question
		2...No -777 Does not know - 999 Refused to answer	→ Skip to F11
F10b	What do you use? (Circle appropriate)	Cleansing Agent	Tick if observed in the house
		1. Bar soap	
		2. Detergent	
		3. Liquid soap	
		4. Ash/ Mud/ Sand	
		-888 Others (specify) _____	
		-777 Does not know -999 Refused to Answer	
F11	On what occasions do you usually wash your hand? Multiple responses possible. (Record the responses. Do not provide options).	1.	
		2.	
		3.	
		4.	
		5.	
		-777 Does not know -999 Refused to Answer	
F12	In the past 2 months, was there any day when your family members did	1....Yes	→Next Question
		2....No	→Skip to next Section

	not have enough food to eat?	-777 Does not know -999 Refused to answer	
F13	If there is insufficient food to it, how is it distributed among the family? (Record response verbatim)	_____ -777 Does not know -999 Refused to answer	

Section G: Knowledge and Awareness

G1	Are you aware of the Public Distribution System? (Use the locally understood term for PDS)	1...Yes	→ Next Question
		2...No -777 Does not know - 999 Refused to answer	→Skip to G4
G2a	Does your household have a ration card?	1...Yes	→Skip to G4
		2...No 3...Applied For -777 Does not know - 999 Refused to answer	
G2b	What kind of ration card do you have?	1...Below Poverty Line (BPL) 2... Above Poverty Line (APL) 3... Antyodaya Anna Yojna (AAY) -888 Others (specify) _____ -777 Does not know - 999 Refused to answer	
G2b	In the last 2 months, has any member of your family availed ration through the PDS system?	1...Yes	→ Next Question
		2...No -777 Does not know - 999 Refused to answer	→Skip to G3
G2c	How often do you obtain ration from the PDS?	1....Once or more per week 2...Once in 15 days 3...Once per month -888 Others (specify) _____ -777 Does not know - 999 Refused to answer	
G2c	Name the items your family obtains from the PDS regularly? (INTERVIEWER: DO NOT PROMPT)	1 _____ 2 _____ 3 _____ 4 _____ 5 _____ -777 Does not know - 999 Refused to answer	
G3	Why does your family not use the PDS to obtain ration? (INTERVIEWER: RECORD RESPONSE VERBATIM)	_____ -777 Does not know - 999 Refused to answer	

G4	Can you name some of the programs/ schemes related to health and nutrition running currently in your area?	1 _____ 2 _____ 3 _____ 4 _____ 5 _____	→ NEXT QUESTION
		-777 Does not know - 999 Refused to answer	→ Skip to G6
G5	Which of these programs/ schemes (from the list mentioned by the respondent) have you been benefitted by?	1 _____ 2 _____ 3 _____ 4 _____ 5 _____ -777 Does not know - 999 Refused to answer	
G6	In your opinion, what more can be done by Government/ NGOs/ Other Institutions to improve the health status of your child? (INTERVIEWER: RECORD RESPONSE VERBATIM)	-777 Does not know - 999 Refused to answer	

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LIST OF PEOPLE INTERACTED DURING TRAINING PERIOD

S.No	Name	Department
1.	Mr Santosh Morey	<u>Research &Documenation</u>
2.	Miss Veena Jayaram	<u>Research & Documentation</u>
3.	Miss Latika Nayyar	Volunteer Action
4.	Mr Darshan	Volunteer Action
5.	Nupur Kaul	Media Advocacy
6.	MissSangeeta	<u>PRAG</u>
7.	MissAnjali	<u>Resource Generation</u>
8.	Mr Shivendu	<u>Development Support</u>
9.	Sunidhi ,Anjali ,Rajni,Anju ,Sunita ,Krishna	<u>Community Volunteers</u>

		Weight for Age									Underweight									total			total percentage		
		Sanjay camp			percentage			Dwarka			percentage			Dakshinpur			percentage			total			total percentage		
	Range	boys	girls	total	boys	girls	total	boys	girls	total	boys	girls	total	boys	girls	total	boys	girls	total	boys	girls	total	boys	girls	total
Mild	WAZ >1	7	22	29	8	26	34	9	12	21	9	12	21	11	13	24	11	13	25	74	17	34	9	12	26
	WAZ >2 <1	6	5	14	10	5	16	14	24	38	14	24	38	11	20	31	11	20	31	83	34	49	12	17.5	29
moderate	WAZ <3 >2																								
severe	WAZ <3	10	12	22	11	14	25	8	8	19	8	8	16	8	9	17	8	9	17	59	29	29	10	10	40
	WAZ >1to <1	6	17	23	7	20	27	7	10	17	7	10	17	11	11	22	11	11	23	62	24	38			
moderate	>1to <2	0	5	5		5	5	0	2	2	0	2	2	0	1	1	2	0	2	8	0	8			
overweight	>2	0	1	1		1	1	2	0	2	2	0	2	0	1	1	0	1	2	4	2	2			1

		Height For Age									Stunting									total			total percentage		
		Sanjay camp			percentage			Dwarka			percentage			Dakshinpur			percentage			total			total percentage		
	Range	boys	girls	total	boys	girls	total	boys	girls	total	boys	girls	total	boys	girls	total	boys	girls	total	boys	girls	total	boys	girls	total
Mild	HAZ >1	7	15	26	8	22	30	9	18	17	9	18	17	6	11	17	6	11	17	60	22	38	7	13	21
	HAZ >2 <1	3	3	6	3	3	7	3	9	12	3	9	12	3	7	10	3	7	10	28	9	19	3	6	10
moderate	HAZ <3 >2	7	3	10	6	3	11	7	14	21	7	14	21	10	11	22	10	11	23	53	24	29	8	10	189
severe	HAZ <3	18	22	40	21	26	47	25	25	50	25	25	50	20	26	46	20	27	47	136	63	73	22	26	48
	HAZ >1to <1	4	13	17				4	4	8				5	6	11				36	13	9			
moderate	>1to <2	1	1	2				4	1	5				1	1	2				9	6	3			
tall	>2	2	5	7				1	3	4				0	4	4				15	13	12			5

		Weight For Height									wasting									total			total percentage		
		Sanjay camp			percentage			Dwarka			percentage			Dakshinpur			percentage			total			total percentage		
	Range	boys	girls	total	boys	girl	total	boys	girls	total	boys	girl	total	boys	girls	total	boys	girls	total	boys	girls	total	boys	girl	total
Mild	WHZ >1	20	39	59	23	46	70	26	46	72	26	46	72	25	33	58	26	33	60	189	71	118	25	42	67
	WHZ >2 <1	5	3	8	5	3	9	7	5	12	7	5	12	9	14	23	10	14	23	43	19	24	6	8	15
moderate	WHZ <3 >2	1	2	4	2	2	4	3	0	3	3	0	3	1	4	5	1	4	5	13	7	6	8	7	4
severe	WHZ <3	4	2	6	4	2	7	5	4	9	5	4	9	4	5	9	4	5	9	24	9	11	1	3	8
	WHZ >1to <1	14	30	44				12	33	45				20	26	46				135	46	89			
moderate	>1to <2	4	6	10				5	6	11				4	6	10				31	13	18			
over musc	>2	2	3	5				8	8	16				1	1	2				23	11	12			8

Anthrosheet for Nutritional status