Summer Training at
Jatan Sansthan, Udaipur

Nutritional Status of Children and Factors Affecting

By
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Under the guidance of
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MBA Hospital & Health Management
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Institute of Health Management Research
The IIHMR University, Jaipur
2018

INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

CERTIFICATE

This is to certify that **Dr. Prerna Choudhary** has undergone summer training at Jatan Sansthan, Udaipur from 2nd April 2018 to 2nd June 2018.

The candidate herself completed the project assigned to her during summer training. Her approach to the project was sincere & proactive. This summer training is partial fulfillment of the course requirement recommended for the award of MBA Hospital and Health Management.

I wish her success in all her future endeavors.

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June 01, 2018

To whomsoever it may concern

This is to be certified that Ms. Prerna Chaudhary D/o Mr. P.R. Chaudhary is a student of IIHMR Jaipur pursuing MBA in Hospital and Health Management. She completed her internship to understand the "Nutritional Status of Children and the Factors affecting it" in Jatan Sansthan for the period from 02/04/2018 to 02/06/2018:

This certificate provided to her on successful completion of her internship for above mentioned period.

We wish her a bright future.

(Dr. Kailash Brijwasi)
Executive Director

ACKNOWLEDGEMENTS

The internship opportunity that I had was a great chance to learn and develop myself professionally. Therefore, I consider myself to be lucky to be able to work in such an organisation and that was able to meet many wonderful individuals who helped me to work my way through the course of my internship.

I extend my deepest gratitude and sense of regard to Dr. Kailash Brijwasi, founder and present leader of Jatan Sansthan. His valuable suggestions and timely guidance helped me during my course of internship.

I extend my regards to Mr. Ranveer Singh Shekhawat, Deputy Director, Jatan Sansthan and Mr. Rajdeep Singh Chundawat, Program Manager, who were always there to guide and help in any circumstances. They, inspite of being extraordinarily busy with their duties, took time out to hear, guide and keep me on the correct path, allowing me to carry out my project extending during the training.

I want to extend my thanks to entire team of Khushi project, to make me feel welcome and help me complete this project. Thank you very much for clearing all my doubts and helping me throughout.

My report would be incomplete without the guidance of my esteemed mentor Dr. Tanjul Saxena who was always there to provide with her unparallel guidance.

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1) ABBREVIATIONS

ANM: Auxiliary nurse and mid-wife

AWW: Anganwadi worker

AWH: Anganwadi helper

AWC: Anganwadi center

CC : Cluster Coordinator

ICDS: Integrated Child Development Services

MAM: Moderately Acute Malnourished

SPSS: Statistical Package for Social Sciences

SAM: Severe Acute Malnourished

SC : Scheduled cast

ST : Scheduled tribe

2) INTRODUCTION

I. JATAN SANSTHAN

a. Vision

- Jatan in Hindi means, effort. It also means energy, endeavour, diligence and work with patience.
- Jatan envisions a society where people lead a healthy, safe and empowered life, free from all forms of discrimination.

b. Mission

1. Jatan's mission is to empower communities by giving them spaces to freely express their concerns.
2. Jatan aims to provide information that will enable communities to seek social and scientific solutions, so that communities can become their own agents of change.
3. Jatan encourages active participation of youth in decision making, policy formulation and advocacy across various forums at national and international level.

c. History

A group of like-minded individuals lead by education specialist Dr Kailash Brijwasi, got together and began working with communities initially at Relmagra in Rajsamand district of Rajasthan and later on other areas. These individuals had common philosophies and a common vision for development. Amongst the founder members was Late Babuji (Srilal Garg) also an education specialist from the area spearheaded much of what Jatan does today. Our work started with reproductive health and life skills workshops with adolescent boys groups in the year 2001. This was made possible through a small grant received by one of the founder members, Lakshmi Murthy.

II. ICDS

Integrated Child Development Services (**ICDS**) is a government programme in India which provides food, preschool education, and primary healthcare to children under 6 years of age and their mothers.

The main objectives of the scheme are [2]:

i) Improvement in the health and nutritional status of children (0–6 years) and pregnant and lactating mothers.
ii) Reduction in the incidence of their mortality and school drop out.
iii) Provision of a firm foundation for proper psychological, physical and social development of the child.
iv) Enhancement of the maternal education and capacity to look after her own health and nutrition and that of her family
v) Effective co-ordination of the policy and implementation among various departments and programmes aimed to promote child development.

3) OBSERVATIONAL LEARNINGS

In the Khushi project that works on the ICDS program there were following crucial points that were noticed affecting the program.

- Manpower shortage and shortage of equipment.
- Lack of knowledge and improper working skills of the AWW & AWH.
- Lack of awareness among parents regarding the importance of AWC services.
- Poor supervision and monitoring.

4) KHUSHI PROJECT

The goal of Khushi project is to improve the efficacy of Integrated Child Development Services (ICDS) Scheme to improve health and well-being status of children in the 0 to 6 years age group. Jatan Sansthan ensures that the overarching objectives of the project are implemented efficiently.

Nutrition that is provided to the children coming to the centre is closely monitored to make sure that meals are healthy and balanced. Care is taken to maintain hygiene of preschool children. We make sure that vaccinations and health checkups have been received in time, and that referrals are made when required.

a. Problem Statement

While the ICDS program is intended to target the needs of the poorest and the most undernourished, there is a mismatch between the program's intentions and its actual implementation.

b. Problem Justification

The ICDS program entails whole of the nation and the coverage area itself is very vast. Even if slight problem or loophole occur at any level the purpose of the program would be defeated. Therefore, the strengthening of the program is of utmost importance.

c. Objective

1. To assess the nutritional status of the children.
2. To study knowledge, attitude and practices related to factors affecting nutrition of children.
3. To investigate association between select demographic characteristics with nutritional status of children:

- H_{01}: There is no association between nutritional status of children and no. of children
- H_{02}: There is no association between nutritional status of children and interval between births
- H_{03}: There is no association between nutritional status of children and annual household income

4. To investigate association between select nutrition related parameters with nutritional status of children:

- H_{04}: There is no association between nutritional status of children and colostrum feeding
- H_{05}: There is no association between nutritional status of children and baby mix.
- H_{06}: there is no association between nutritional status of children and feeding practices.

d. Rationale

Nutritional access is not universal across India: a staggering 42.5% of Indian children are underweight for their age, ICDS even after being the largest promotion nutrition program for mothers and children in the world, is not able to cater to the needs of all the rural population.

There is a need to asses why and how is the program lacking and then strengthen it accordingly. The budget that is being allotted by the government should be used for that purpose and effectively. The end receiver of the program, the mothers and children should be benefitted.

e. Methodology

- STUDY TYPE : Crossectional
- SAMPLING METHOD: Random Sampling (Anganwadi selection)
  Systematic Random Sampling (selection of families)
- SAMPLE UNIT : 31 AWCs of Rajsamand, Railmagra & Khamnor Blocks
- STUDY DURATION : 60 Days

- SAMPLE SIZE : 299 families
- RESPONDENTS : Mothers (0-6 years)
- DATA COLLECTION TECHNIQUE

➢ QUANTITATIVE

- Questionnaire

➢ QUALITATIVE

- Focus Group Discussion

- DATA ANALYSIS : SPSS

The anganwadis covered were as follows:

RAJSAMAND	**KHAMNOR**	**RAILMANGRA**
• BORDA • MADRIGOLIYA • KERUT • TASOL • VASNI • PARVAT KHEDI • BORAJ KHEDA • DHAYLA • MUNDOL • MANDAWAAR	• CHOTA BHANUJA • BADA BHANUJA • KARAI • MACHIND • CHARON KI MADAR • SALODA 1 • SALODA 2 • KADO KA GUDA • KOSHIWADA • SIROHI KI BAGEL • DABUN • VALRA • FATEHPURA	• KANHAKHEDA • LATHIYAKHEDI • RAGHUNATHPURA • SOPURA • PIPLI DODHIYAN • SANSERA • SAKRAWAS • BETHUMBI BHEEL BASTI

f. Data Compilation and Analysis

Compilation:

100 families from each block that is Rajsamand, Khamnor and Railmangra were taken as sample. Block wise data entry was done in SPSS sheets and later was compiled in one common file. Various questions were taken from the tool as parameters for assessment of nutritional status of the child and for meeting the objectives.

Analysis:

The analysis of data was done by SPSS, where two tests were used

- CHI SQUARE test (categorical variable vs. categorical variable)
- ONE WAY – ANOVA (categorical variable vs. continuous variable)

5) SURVEY RESULTS

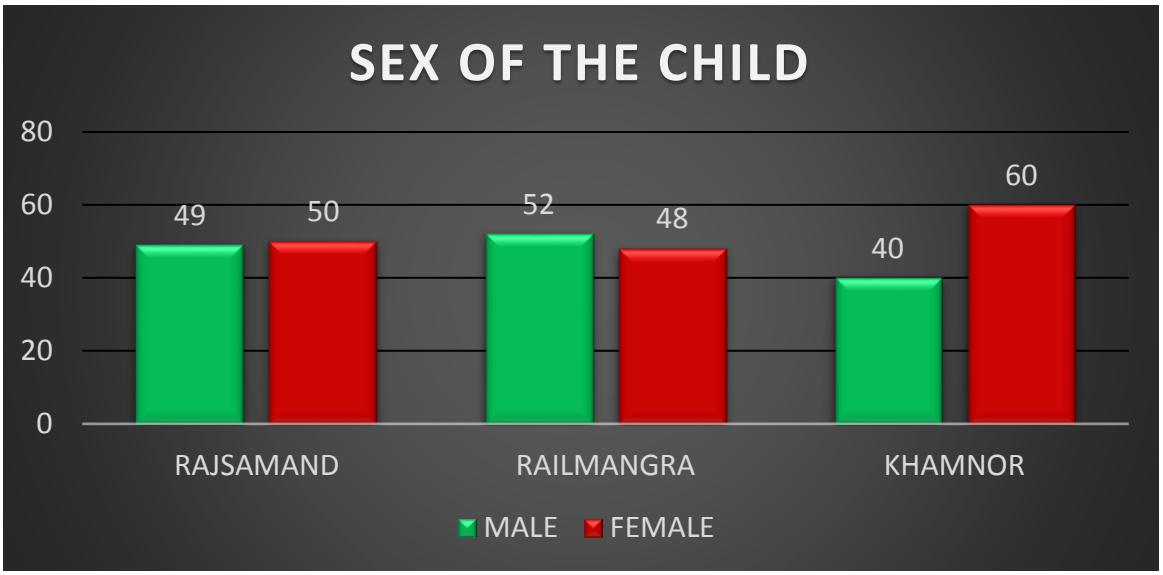
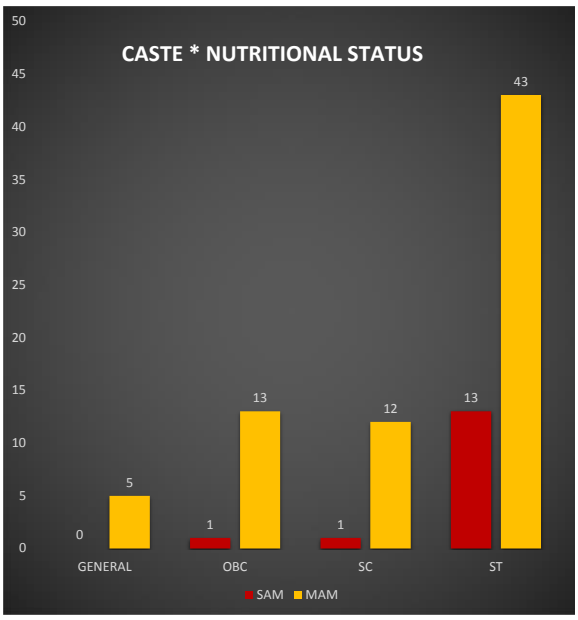


FIG 1: FREQUENCY DISTRIBUTION- SEX OF THE CHILDREN

- The frequency table signifies that there were 141 male and 158 female children in total that were surveyed.



NUMBER OF RESPONDENTS

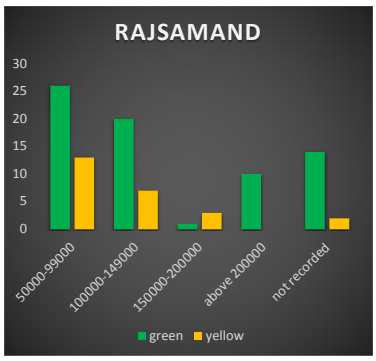
- GENERAL
  MAM : 05
  SAM : 00
- OBC
  MAM : 13
  SAM : 01
- SC
  MAM : 12
  SAM : 01
- ST
  MAM : 43
  SAM : 13

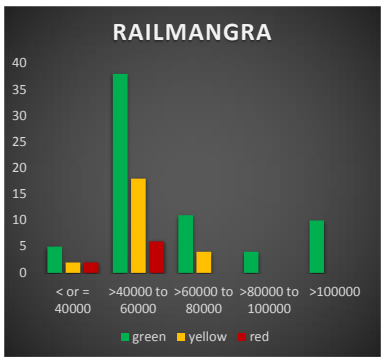
Maximum number of SAM are in the ST category.

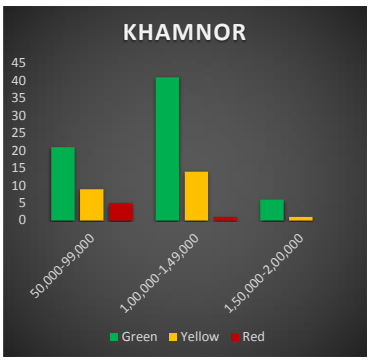
FIG 2: NUTRITIONAL STATUS & CASTE

- The nutritional level signifies that the maximum undernourished children were in ST.

NUTRITION GRADE * INCOME







- The comparison between the b3 blocks suggests that the income plays a major role in the nutritional status.
- The total children with nutritional grade green are, 208 in which maximum green in comparison to yellow falls in the upper income category(1 lakh and above).
- In above income group 88 children were green status in respect to 26 in yellow and red combined status.

FIG 3: NUTRITIONAL GRADE & ANNUAL HOUSEHOLD INCOME

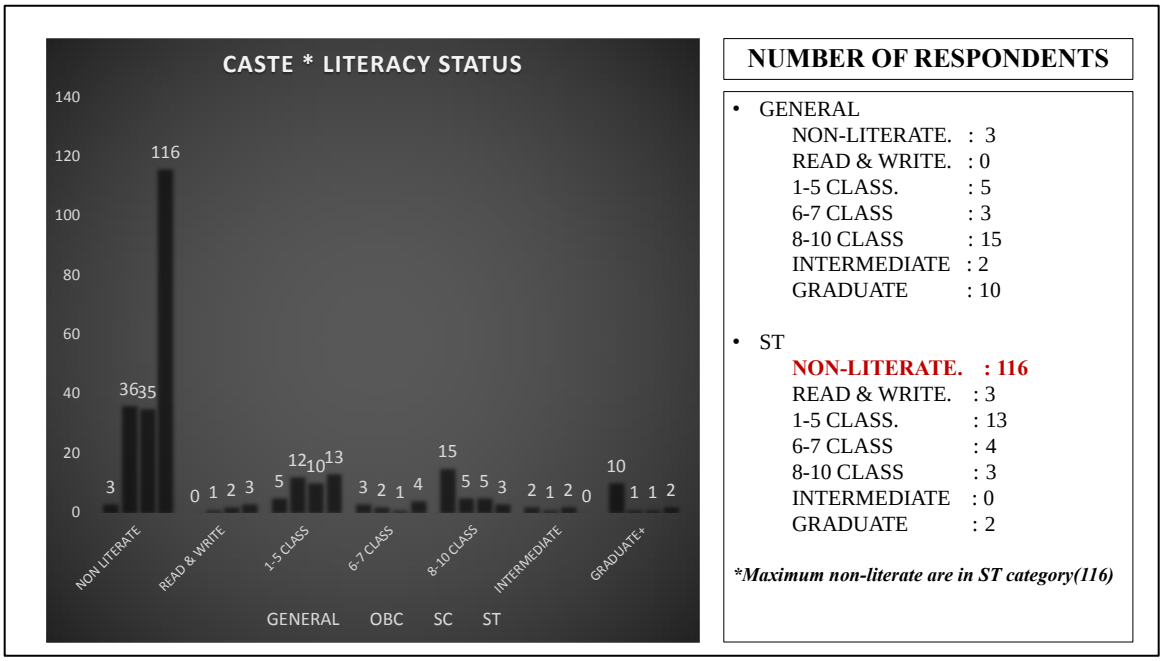


FIG 4: CASTE & LITERACY STATUS

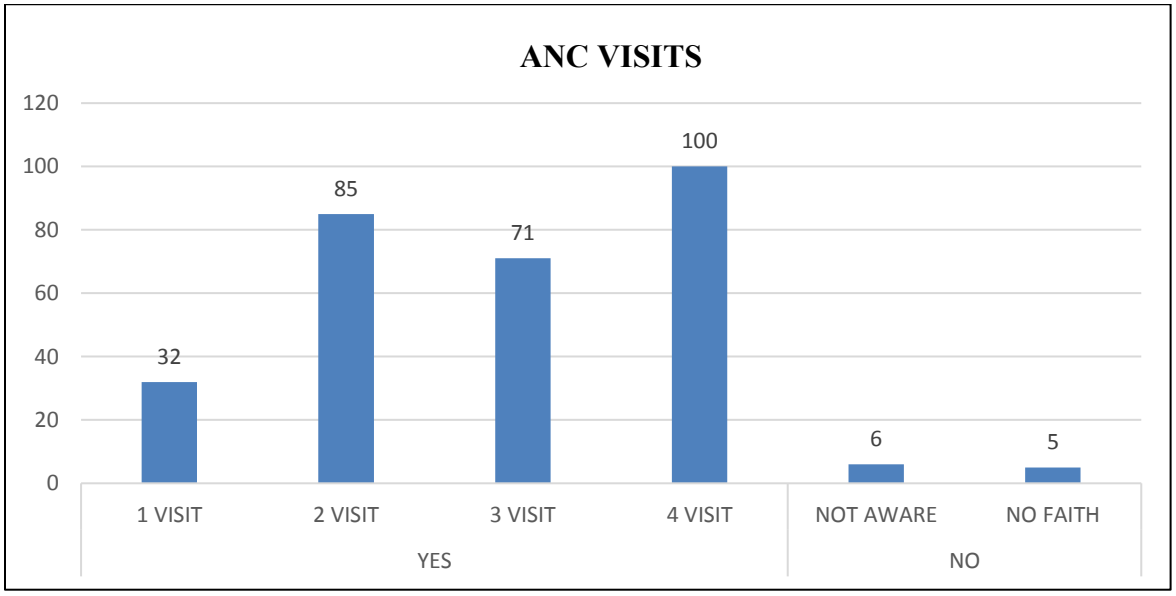


FIG 5: ANC VISITS

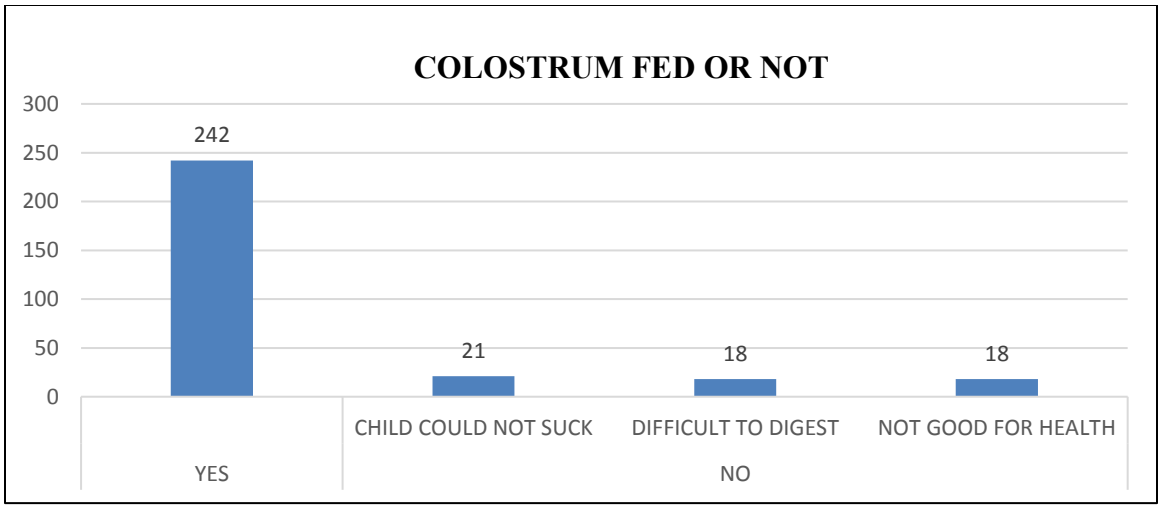


FIG 6: COLOSTRUM FEEDING

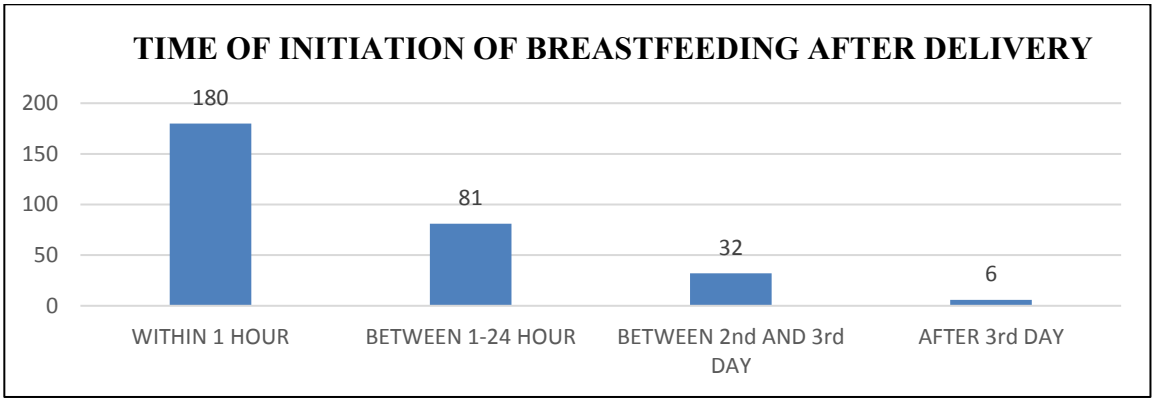


FIG 7: TIME OF INITIATION OF BREASTFEEDING

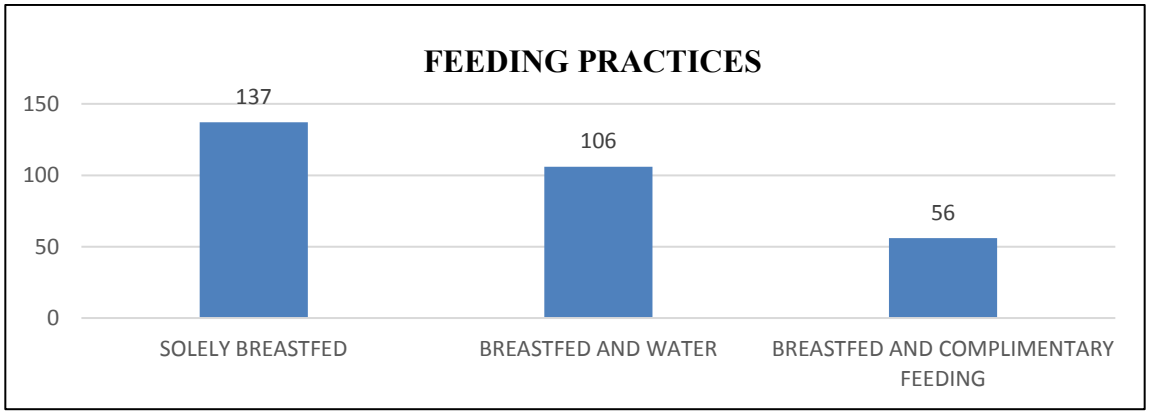


FIG 8: FEEDING PRACTICES

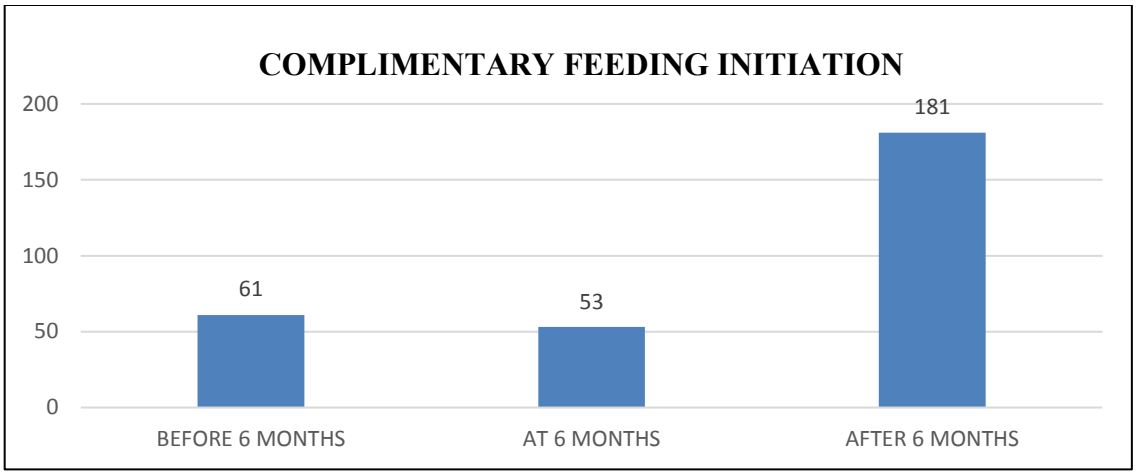


FIG 9: COMPLIMENTARY FEEDING INITIATION

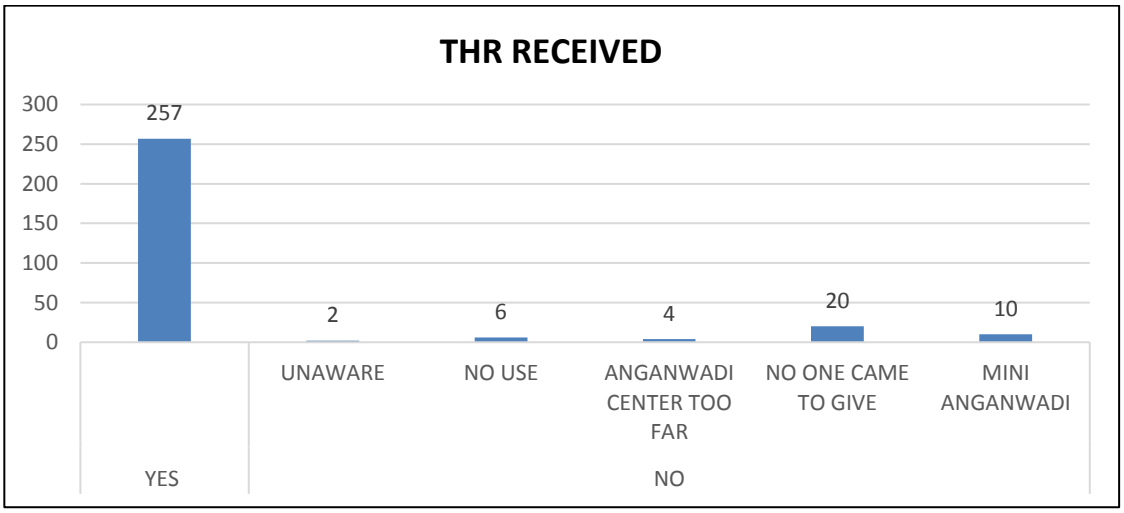
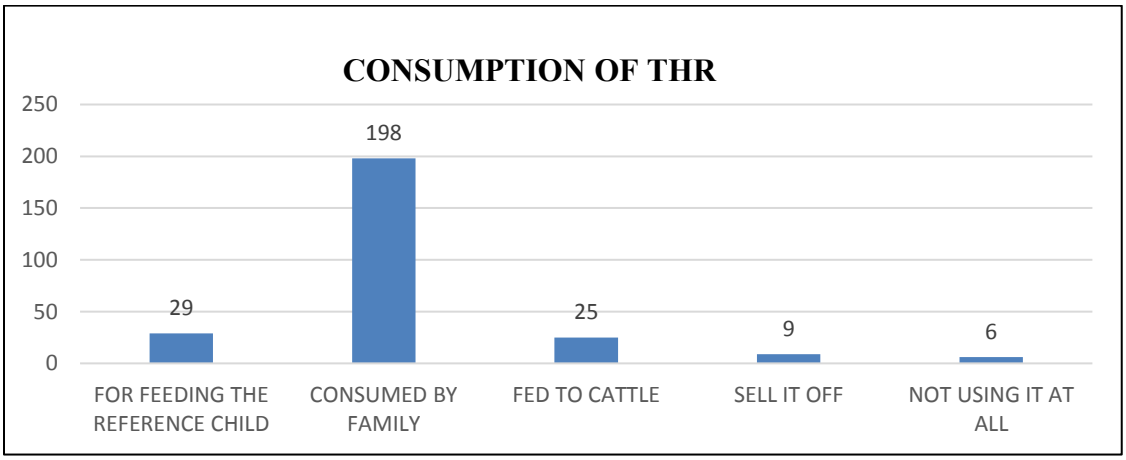


FIG 10: THR RECEIVED



FIG

FIG 11: CONSUMPTION OF THR

S.NO.	NULL HYPOTHESIS (H_0)	TEST USED	RESULT	INTERPRETATION
H_{01}	There is no association between nutritional status of children and no. of children	CHI SQUARE TEST	H_{01} rejected	Less than two year interval between two births affect the nutritional status of the children
H_{02}	There is no association between nutritional status of children and interval between births.	ONE WAY ANOVA	H_{02} rejected	More no. of children to parents hamper the nutritional status of their children.
H_{03}	There is no association between nutritional status of children and annual household income.	ONE WAY ANOVA	H_{03} rejected	Lower the annual household income, more prevalent the child is to fall in SAM & MAM category.
H_{04}	There is no association between nutritional status of children and colostrum feeding	CHI SQUARE TEST	H_{04} rejected	Feeding of colostrum is beneficial for the nutrition of children.
H_{05}	There is no association between nutritional status of children and use of THR (baby mix)	CHI SQUARE TEST	H_{05} rejected	THR consumption affects the nutrition of children.
H_{06}	There is no association between nutritional status of children and feeding practices.	CHI SQUARE TEST	H_{06} accepted.	No association was found between nutritional status of children and the feeding practices in these areas.

TABLE 1: SURVEY RESULTS

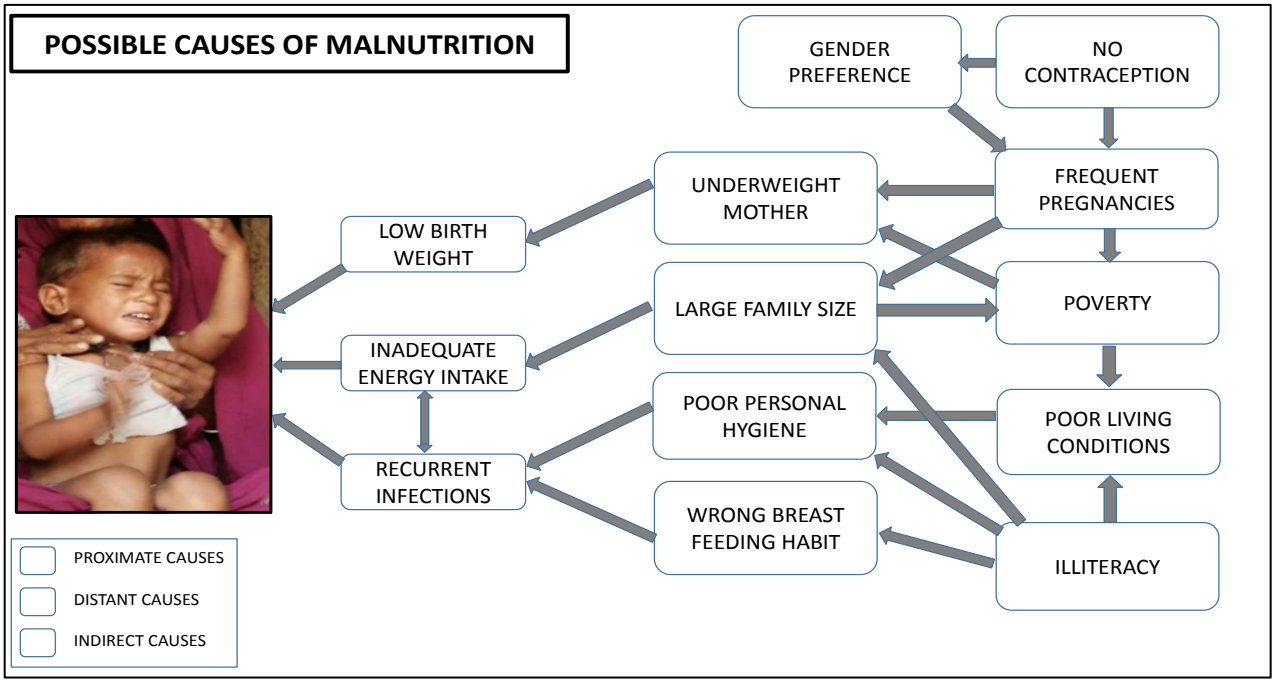


FIG 12: MALNUTRITION – POSSIBLE CAUSES

6) OBSERVATIONAL STUDIES

A. Pritampura

NAME: SUDHA & SUMAN(name changed) SEX: Female CASTE: ST

DOB: 28/05/16 (twins)

AGE: 1 year 11 months

NUTRITIONAL STATUS: GREEN in growth chart

NAME	SEX	RELATION	AGE	OCCUPATION
ILA	F	Mother	33	Housewife
SHANTILAL	M	Father	38	Agricultural Labourer
A	F	Sister	5	Married
B	F	Sister	-	
C	F	Sister	-	
D	F	Sister	-	
E	F	Sister	-	
F	F	Sister	-	
G	F	Sister	-	
H	F	Sister	5	
SUDHA	F	Self	1.11	
SUMAN	F	Self	1.11	

- FAMILY SIZE – 12 members
- FAMILY INCOME – Rs.60000/p.a.
- Financially very poor.
- MOTHER – 33 yrs., Illiterate.
- Has **10 daughters, in hope of a male child.**
- Delivered twin daughters approx. 1.11 years back.
- Is **pregnant with the 11th child** at present.
- Not adopted any family planning methods yet.
- The family has a single earning member and 12 members to feed.
- **Breastfed for 3 months (twins)**
- Mother was nauseous most of the times due to anemia but still refused to take any iron supplements provided by the anganwadi.
- Sudha was born with a birth weight of 2.5 kg.
- Suman was born with a birth weight of 2.7 kg.

➢ SUDHA:
- ❑ Was born having a normal weight ,then shifted to the SAM category in the second month.
- ❑ She was referred to MTC after which she again shifted to green in the 6th month.
- ❑ She still continues to be in the green status.

➢ SUMAN:
- ❑ Was born with a normal weight, until the third month was in the nourished status.
- ❑ From 3rd to 15th month (1 year) she was in the MAM category.
- ❑ She too was referred to the MTC services after which she regained her nourished status.

	SUDHA	SUMAN
Present weight (kg)	8.60	9.00

- The child suffered from cough, fever, diarrhea for which no treatment was taken.
- THR is consumed by the whole family.
- Toilet is absent
- The mother was counselled about family planning methods but did not seem to be interested.
- Conclusion :

  As we can see, the birth interval is less than 2 years and the twins were in green status until breastfed, after which one became SAM & other MAM. Breastfeeding, interval between births and no. of children plays an important role in nutrition of children.

B. Mundol

NAME : Kiran(name changed) SEX : Female CASTE : SC

DOB : 06/04/2014

AGE : 4 years 2 months

NUTRITIONAL STATUS : YELLOW in growth chart

NAME	SEX	RELATION	AGE	OCCUPATION
LEELA	F	Mother	Not known	Housewife
PRABHU	M	Father	40	Gram Panchayat
A	M	Brother		
B	F	Sister	-	
C	F	Sister	-	
D	M	Brother	-	
KIRAN	F	Reference child	4.2	

- FAMILY SIZE: 7
- ANNUAL HOUSEHOL INCOME : Rs.48,000
- Leela is Prabhu's sixth wife, and was hesitant to answer any questions in the beginning
- The wife and kids were regularly beaten by Prabhu, and were not allowed to go anywhere outside the house.
- The kids were not allowed to visit the AWC or school.
- Whereas, on being questioned about it Prabhu refused to accept the truth and said that the kids were regular with the AWC and its services.
- The children were weighed and it was found that two of them were MAM.
- The parents were unaware about the fact
- Both the parents were informed and counseled about the AWC services and its effect on their child's nutritional status
- AWC was also informed about the same, after which both the children were referred to MTC and regular follow ups were taken.

7) FOCUS GROUP DISCUSSION -

The questions asked in focused group discussions were related to following topics

1. Awareness about Anganwadi services.
2. Breastfeeding
3. Immunization
4. Interval between children
5. Initiation of complementary feeding.

- *The replies for questions are shown in graph.*

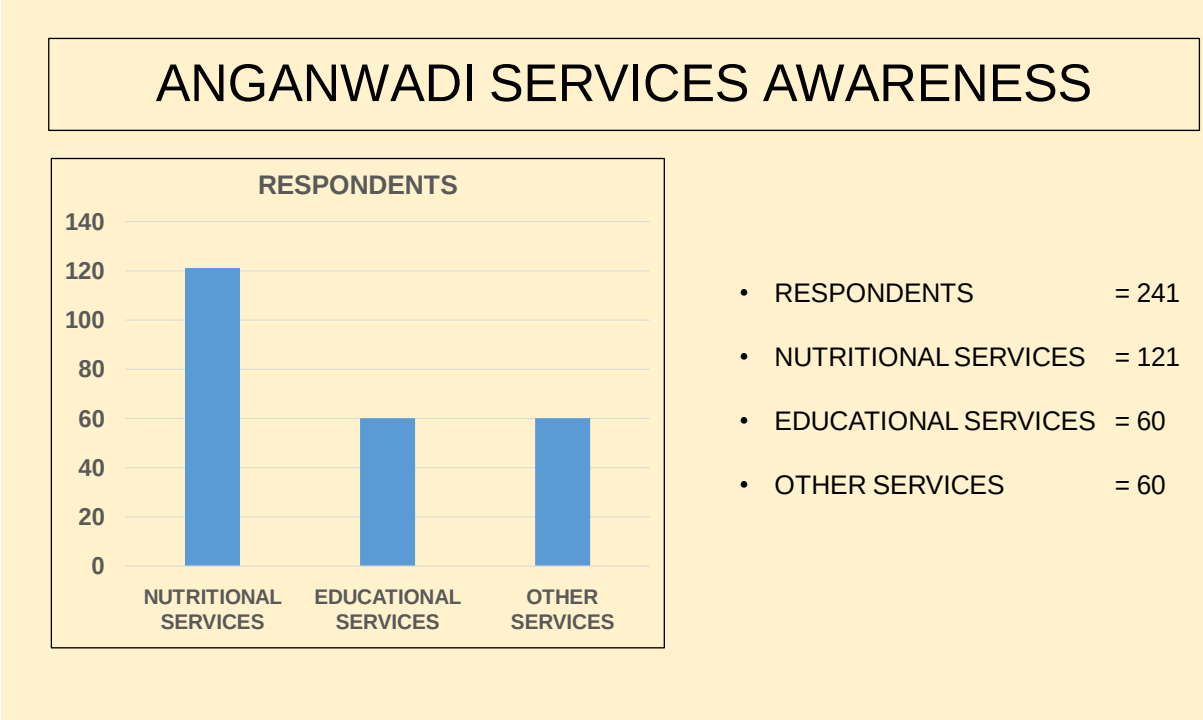


FIG 13: FGD- ANGANWADI SERVICES AWARENESS

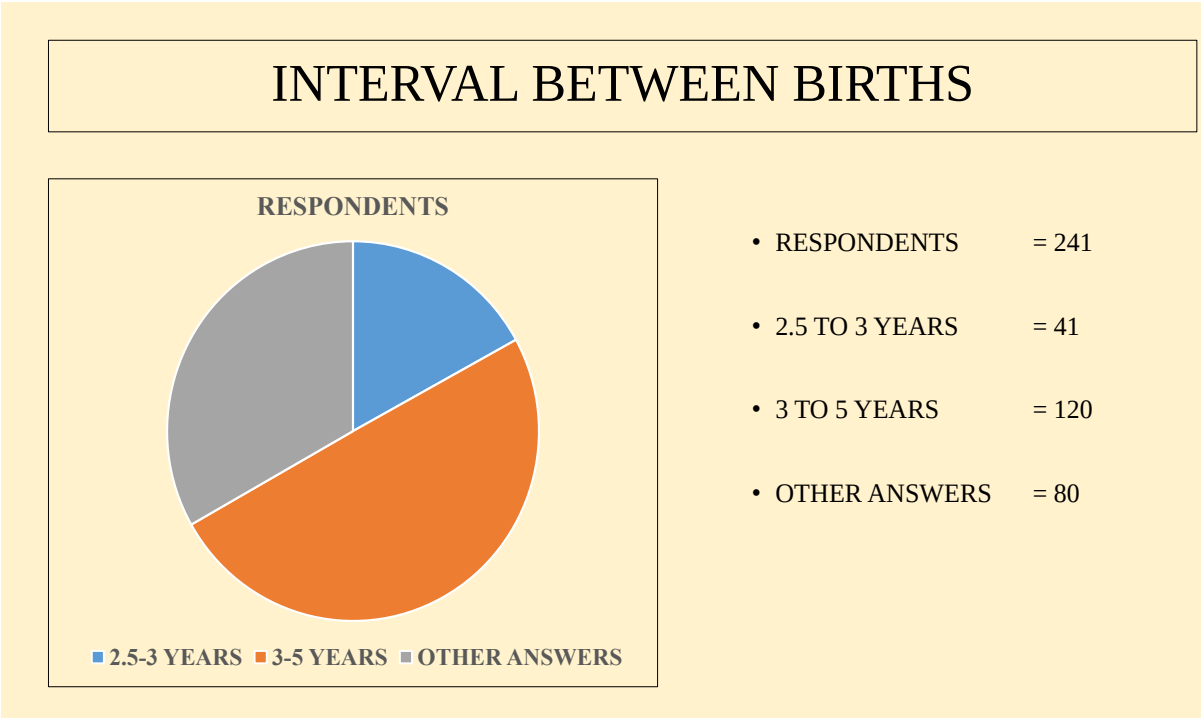


FIG 14: FGD- INTERVAL BETWEEN BIRTHS

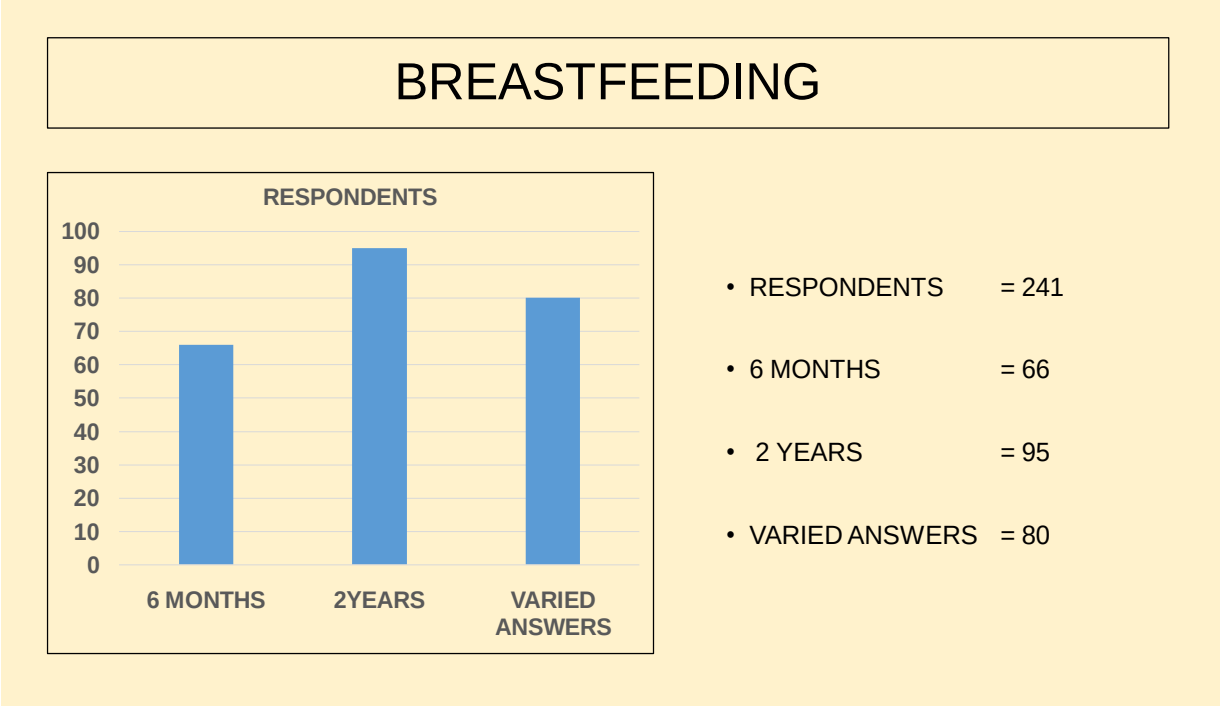


FIG 15: FGD- DURATION OF BREASTFEEDING

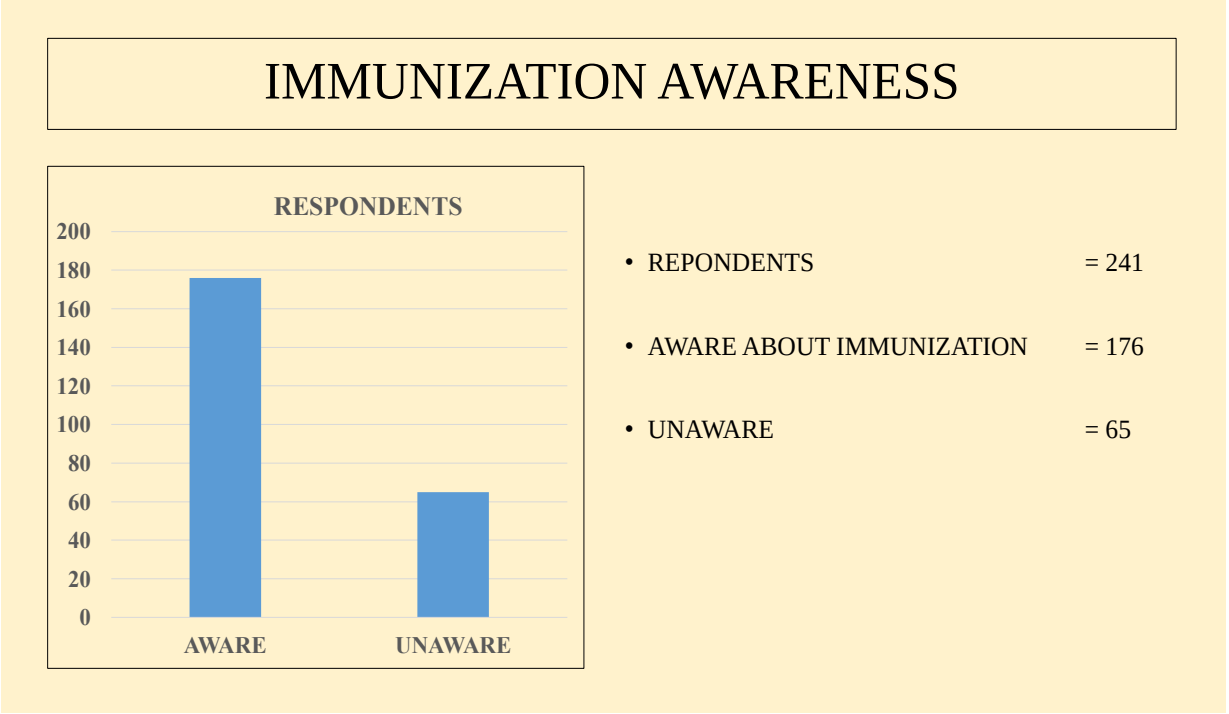


FIG 16: FGD-IMMUNIZATION AWARENESS

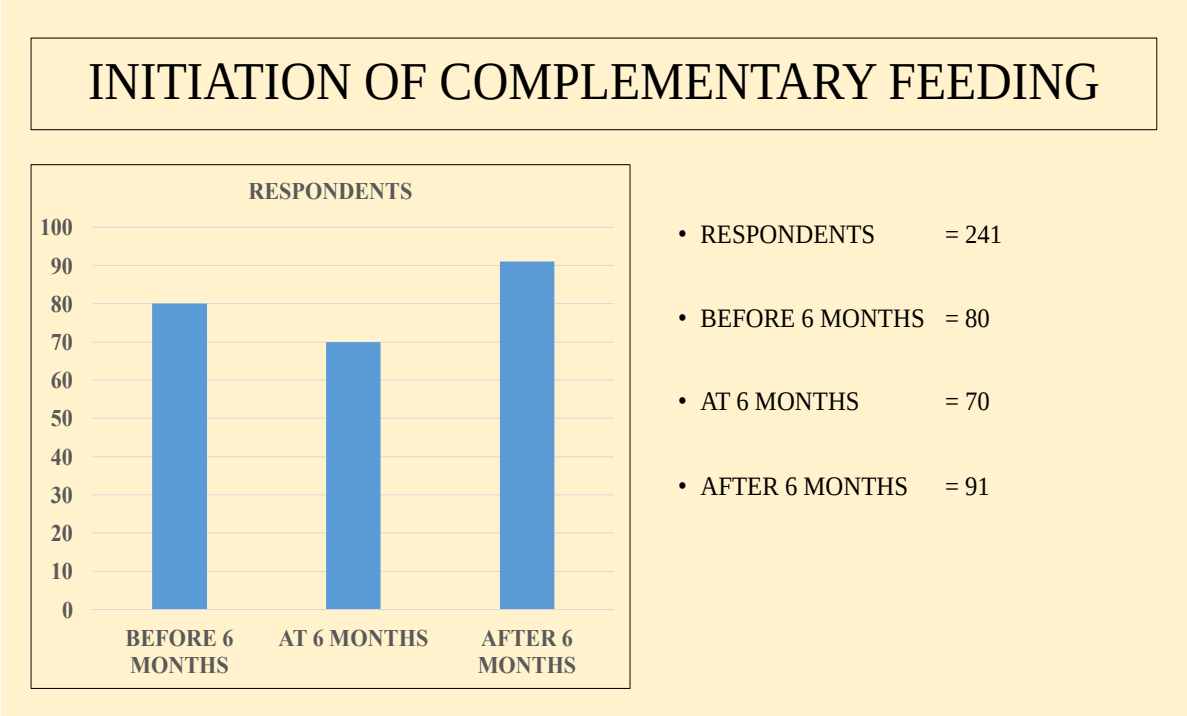


FIG 17: FGD- INITIATION OF COMPLEMENTARY FEEDING

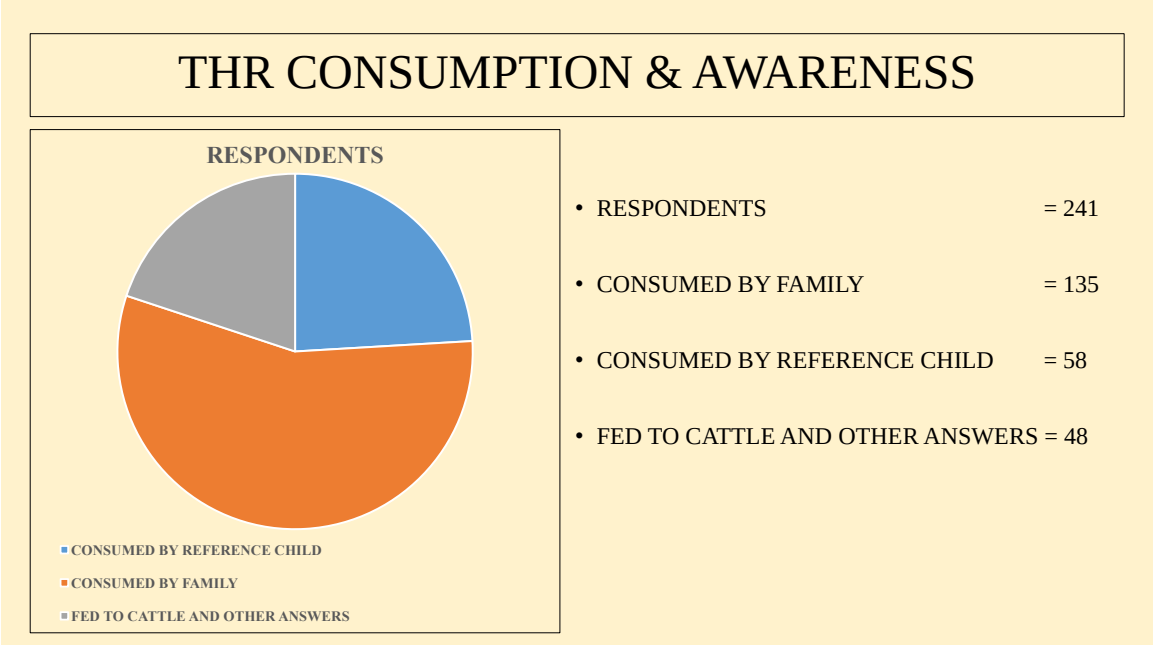


FIG 18: FGD- THR CONSUMPTION & AWARENESS

It is evident that the huge number of respondents were unaware about the full plethora of services provided by the anganwadis.

Even the use of take home rations and the immunization was unknown to maximum number of respondents.

Above asked questions have direct relation to the nutrition of children, for e.g. the initiation of complimentary breast feeding or the optimum duration of exclusive breastfeeding is vital for child growth and nutrition.

8) RECOMMENDATIONS AND CONCLUSION

According to the research conducted, following recommendations can be taken into consideration:

- Literacy status of the respondents directly relates to the nutrition of the reference child hence awareness about the same should be spread and utmost importance should be given to work in this direction to efficiently and effectively improve the nutritional status of children.
- Hypothesis testing indicated statistically significate association of nutritional status with certain demographic characteristics and practices which can be used as input to design nutritional strategies of AWC.
- Better training to AWW and, more inputs, better supervision, efficient monitoring along with execution preciseness is needed for everything to fall in place, rational and equitable workload distribution will go a long way to make ICDS programme better.

9) REFERENCES

Jatan Sansthan mission and vision retrieved from

http://jatansansthan.org/

Information about ICDS retrieved from

http://www.icds-wcd.nic.in/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4925843/

10)ANNEXURES

ANNEXURE 01

- Three teams were made of 3 members each for data collection from 3 blocks.
- Blocks given were Railmangra, Khamnor and Rajsamand.
- The teams were given guidance by cluster coordinators.
- One cluster coordinator has 10 anganwadis under him/her for monitoring purposes.
- The names of the designated people are as follows.

NAME	DESIGNATION
Dr. Kailash Brijwasi	Director
Ranveer Singh	Deputy Director
Rajdeep Singh	Program Coordinator
Usha Choudhary	Head Researcher

ANNEXURE 02

The tool (questionnaire) that was used for data collection is as follows:

QUESTIONNAIRE

Q.1 Area/Village:

Q.2 Name of the AWC:

Q.3 Name of the AWW:

Q.4 Name of the interviewer:

General Information:

Q.5 Name of the reference child:

Q.6 DOB:

Q.7 Age of the reference child:

Q.8 Sex:

1. Male
2. female

Q.9 Weight at birth:

1. Less than 2.5kg
2. Equal and greater than 2.5kg
3. Not recorded

Q.10 Present weight:

Q.11 Present height:

Q.12 Nutrition grade of child:

1. Yellow
2. Green
3. Red
4. Don’t know

Q.13 No. of children:

1. 1
2. 2
3. 3
4. 4
5. 5

6. More than 5, _____

Q.14 Birth order (nth child?):

1. First
2. Second
3. Third
4. Fourth
5. Fifth and above

Q.15 Interval between last two births:

Q.16 Name of the respondent (parent):

Q.17 Age:

Q.18 Literacy status:

1. Illiterate
2. Read & write
3. 1 – 5 Class
4. 6 – 7 Class
5. 8 – 10 Class
6. Intermediate
7. Graduate & above
8. NA

Q.19 Occupation of child's father:

1. Agricultural labour
2. Other labour
3. Owner Cultivator
4. Land lord
5. Artisan
6. Service
7. Business
8. Others
9. NA

Q.20 Occupation of child's mother:

1. Agricultural labor
2. Other labor
3. Owner Cultivator
4. Service
5. Business
6. Housewife
7. Others

Q.21 Household annual income: _____

Q.22 Caste:

1. General
2. OBC
3. SC
4. ST

Q.23 Family size:

1. 1 -4
2. 5 – 9
3. ≥ 10

Q.24 Type of house:

1. Kutcha
2. Semi Pucca
3. Pucca

Q.25 Source of drinking water:

1. Open Well
2. Tube Well
3. Tap
4. Handpump

Q.26 Sanitary Latrine:

1. Present and in use
2. Present and not in use

3. Absent

Q.27 Undergone ANC check-up:

1. Yes
2. No

Q.28 If yes, total number of ANCs:

1. One
2. Two
3. Three
4. Four

Q.29 If no, then why?

1. Not aware of the need
2. Loss of wages
3. No faith
4. No ANC held in the village
5. Timings are not convenient
6. Place is not accessible
7. Others

Q.30 Received IFA tablets:

1. Yes
2. No

Q.31 Place of delivery:

1. Home
2. Institutional delivery

Q.32 Child given pre-lacteals:

1. Yes
2. No

Q.33 Child fed with colostrum:

1. Yes

2. No

Q.34 If no, reasons for discarding colostrum:

1. Child could not suck
2. Difficult to digest
3. Not good for health
4. Others

Q.35 Time of initiation of breast feeding after delivery:

1. Within 1 hr. after birth
2. After 1 hr. and within 24hr
3. Between 1 to 3 days
4. After more than 3 days

Q.36 Reason for the same: _____

Q.37 Feeding practices:

1. Solely breast fed
2. Breast fed+ water
3. Breast fed+ complementary feeding

Q.38 Age of initiation complementary feeding:

1. Before 6 months
2. At 6 months
3. After 6 months

Q.39 Foods generally included in home-made foods: (multiple responses)

1. Cereals & Millets
2. Pulses & legumes
3. Green Leafy Vegetables
4. Other Vegetables
5. Fruits
6. Milk & milk products
7. Eggs
8. Flesh foods

Q.40 Do you know what baby mix is?

1. Yes
2. No

Q.41 Do you receive/bring baby mix from anganwadi centers?

1. Yes
2. No

Q.42 If yes, how often?

1. Weekly
2. Biweekly
3. Monthly

Q.43 If no, why not?

1. No awareness
2. No use
3. Anganwadi centre too far
4. No one came to give
5. Others

Q.44 How do you use baby mix?

1. For feeding the reference child
2. Consumed by all family members
3. Fed to the cattle
4. Sell it off
5. Not using it at all
6. Others

Q.45 Did your child receive immunization?

1. Yes
2. No

Q.46 Any Illness in last 15 days:

1. Yes
2. No

Q.47 If yes, which?

1. Fever
2. Diarrhea
3. Cough
4. Other _____

Q.48 According to you, what all services are provided by Anganwadis? (multiple responses)

1. Health check-ups
2. Immunization
3. Pre-school education
4. Nutrition supplementation
5. For referrals
6. Don't know

Focused group discussion conducted had following questions,

1. What do you know about anganwadi services?
2. Do you think that anganwadi services are required?
3. Is there any change you want in present anganwadi services?
4. What do you know about breastfeeding?
5. What is the optimum time that a child should be breastfed to?
6. Do you breastfeed your child when you are ill?
7. What should be the interval between two children?
8. Do you the nutrition status of your children?
9. Is it important to get your child immunized?
10. What are the timings of different vaccinations to be given to your children?