

**Summer Training at
Jatan Sansthan, Udaipur**

Assessment of Supplementary Nutrition

**By
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**Under the guidance of
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2017-2019**


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2018

CERTIFICATE

This is to certify that **Leena Goyal** has undergone summer training in 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 and proactive. This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Hospital and Health Management.

I wish her success in all her future endeavors.

[Signature]
4-7-2018

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June 01, 2018

To whomsoever it may concern

This is to be certified that Ms. Leena Goyal D/o Mr. Rajkumar Goyal is a student of IHMR 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

ACKNOWLEDGEMENT

I, Leena Goyal hereby, take this opportunity to humbly express my gratitude towards all those concerned with my Summer Internship cum Research Project entitled "FACTORS AFFECTING NUTRITION OF CHILDREN".

I would like to share the success of my project amongst the people who have directly and indirectly helped me complete it.

First and foremost, I would like to thank my parents and my family for their continual support to all my decisions, for understanding my objectives in life and allowing me to express myself freely and for all the encouragement and motivation.

In providing concrete shape to the project, there are numerous people who have taken part, I take this opportunity to express my deep sense of gratitude and healthy thanks to my coordinator MR. RAJDEEP, for his valuable guidance, suggestions and support for this project.

I would like to express my heartiest thanks to DR. S.P. Chattopadhyay to provide me with the proper guidance when required.

I would also like to thank all my friends and team members for all the support they have provided me.

Finally, I apologize all other unnamed who helped me in various ways to have a good summer internship.

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ABBREVIATIONS

AWC: Anganwadi Centre

AWW: Anganwadi Worker

AWH: Anganwadi Helper

CC: Cluster coordinator

ICDS: Integrated Child Development Services

SPSS: Statistical Package for Social Sciences

SAM: Severe Acute Malnourished

MAM: Moderate Acute Malnourished

THR: Take Home Ration

REPORT

PART-1

I did my internship from Jatan Sansthan, Udaipur for a period of two months i.e. from 2nd April to 2nd June, 2018. We were nine students from IIHMR University, and were thereby divided into three teams. Each team consisting of three people were sent to different places such as Rajsamand, Railmagra and Khamnor to work on the research title 'nutrition of children and factors affecting it'.

About the organisation: JATAN SANSTHAN

Jatan in Hindi means an effort. It also means energy, endeavour, diligence & perseverance.

Established in 2001, Jatan Sansthan is a not-for-profit organization working with rural & resource poor communities in the state of Rajasthan, India. Since then, Jatan has implemented various initiatives towards improving social & demographic indicators by working with youth groups. Jatan has worked on programs related to children, young people & women in the areas of health & education.

Vision

"Jatan envisions a society where people lead a healthy, safe and empowered life, free from all forms of discrimination."

Mission

- Jatan's mission is to empower communities by giving them spaces to freely express their concerns.
- 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.
- Jatan encourages active participation of youth in decision making, policy formulation and advocacy across various forums at national and international level.

Khushi Project (A project of Jatan Sansthan)

Objective – To strengthen the efficiency of Integrated Child Development Services (ICDS) Scheme, to improve health & well-being of the children of 0-6 years of age.

OBSERVATIONAL LEARNINGS

I) GENERAL FINDINGS AND SUGGESTIONS ON LEARNING

Critical factors affecting the functioning of the Khushi Project were observed. General findings mentioned below give an idea about the need of the Khushi Project to strengthen services provided by ICDS. Therefore, for the efficient working & effective results of the project I would suggest –

- Time table issued by ICDS was not followed by anganwadi staff for which stringent rules can be made
- Motivation to work in ASHA and anganwadi worker was seen to be low. To overcome this, better incentives and trainings can be provided to the staff
- Shortage of manpower at anganwadi centers due to which work load on worker increases
- Lack of proper knowledge in mothers regarding health of their child which leads to poor health and development of children
- Less awareness in public about services provided at AWCs which in turns leads to less fulfilments of ICDS objectives. Timely awareness campaigns for rural population can be organized
- Community participation should be encouraged

PART-2

OBJECTIVES:

1. To assess the nutritional status of the child
2. To study about factors affecting nutrition of the child
3. To check is there is any association between the above-mentioned objectives

SPECIFIC OBJECTIVES:

- 1) To assess the coverage and consumption pattern of take home ration
- 2) To assess the nutritional grade of children using MUAC tape

INTRODUCTION:

India carries a serious burden of malnourishment among under age five children and hence undernutrition persists to be a major public health problem disabling millions of children each year. Children are said to be undernourished if their diet doesn't provide sufficient nutrients which are responsible for growth and maintenance or they are not able to fully utilize the food they eat due to some illness. As per the National Family Health Survey (NFHS)-4 (2015-16), 35.7 per cent children below five years are underweight.

Integrated Child Development Services (ICDS) launched in 1975 is India's flagship programme for infant and young child education, nutrition, health, and development. It hence serves as a great platform for many development initiatives in India. It aims to serve the extreme underprivileged communities of backward and remote areas of our country. To ensure maximum participation, it delivers services right at the doorsteps of the beneficiaries.

One of its prime objective is of improving the nutrition status of underprivileged children, by providing supplementary nutrition. These services are provided through a network of local level centres, called *anganwadi* centres (AWCs), and include immunization, health care, preschool education, maternal education, referral services, family planning, vitamin A supplementation, iron-folic acid supplementation and provision of supplementary food. The key functionary of ICDS scheme is the Anganwadi worker, an honorary worker who belongs to the community and serves a population of ~1000 people each. The other staff includes Anganwadi helper who works with AWW to help in executing routine activities and ASHA.

To address child malnutrition, ICDS specifically launched the Supplementary Nutrition Programme (SNP), which provides nutritional food to vulnerable populations such as children up to 6 years of age, pregnant women and nursing mothers. The SNP consists of two components: Morning snack and Hot cooked meal served daily at anganwadi centres to children ages 3 to 6 and Weekly take home rations (THR) for children ages 6 months to 3 years, pregnant and lactating mothers till six months after delivery, and adolescent girls. Every beneficiary under supplementary nutrition is entitled for hot cooked meal for 300 days a year whereas Every Thursday of a month, expectant and nursing mothers are given 930gms of THR and 750gms of baby mix is given for children.

CATEGORY	QUANTITY
7 months to 3 years of age child	750 grams
Undernourished child	750+450 grams
Pregnant, lactating mothers & adolescent girls	930 grams

THR also called as 'Baby mix' or '*vikendrit posahaar*' and is prepared by Self Help Groups (SHG) according to the quantity estimation given by the Anganwadi worker.

Product description:

COMPOSITION	PROPORTION IN %
Wheat	50
Soya bean	11
Sugar	29
<i>Chane ki dal</i>	5
Oil	5
Total	100

This 100grams of baby mix sums up to provide 456 kilo calorie and 13.38 grams protein.

As malnourishment is linked with improper feeding practices and dietary intake, the present study was conducted to assess the consumption of THR provided and its effect on nutritional grade of beneficiaries consuming it.

RATIONALE:

About two third portion of the under age five children in India are malnourished and among them six to eight percent are severely malnourished while rest fall in the group of moderate malnutrition, so it can be said that malnutrition is one of the most spread conditions affecting child health in our country. Therefore, it is a need to study about factors affecting malnourishment. Also, as supplementary nutrition is one of the most vital objectives under the scheme of ICDS, its impact is necessary to evaluate.

METHODOLOGY:

Study design and area:

An analytical cross-sectional study was conducted in Khamnor subdivision of Rajsamand district of Rajasthan, India.

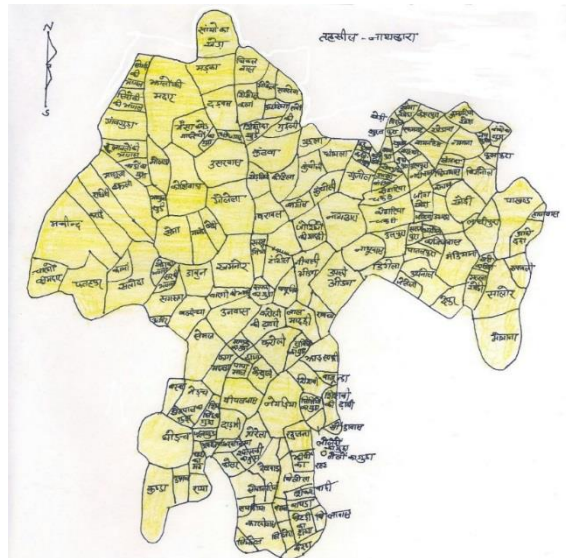
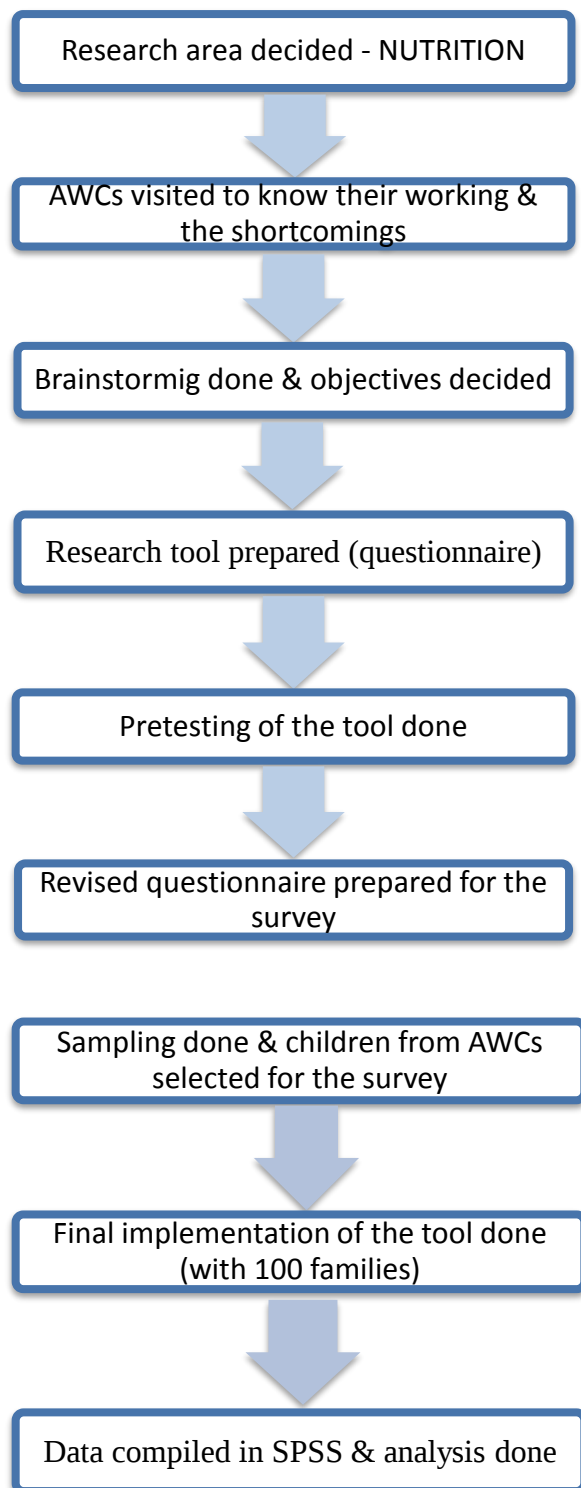


Figure 1. Map of Khamnor



Study period:

The study was conducted for two months from April 3rd to June 1st, 2018 during which regular visits were made to Anganwadis and homes between 8:00 am to 12:00 pm on designated days.

Sample and sample size:

A total of 13 Anganwadis in sub-division Khamnor were selected by systematic random sampling. The present study was conducted among 100 under age five children. Each selected AWC provided a list of all the children between 0 and 5 years in its catchment area. For the second phase of sampling, again systematic random sampling was used to select children whose mothers had to be interviewed.

Survey instrument and indicator definitions:

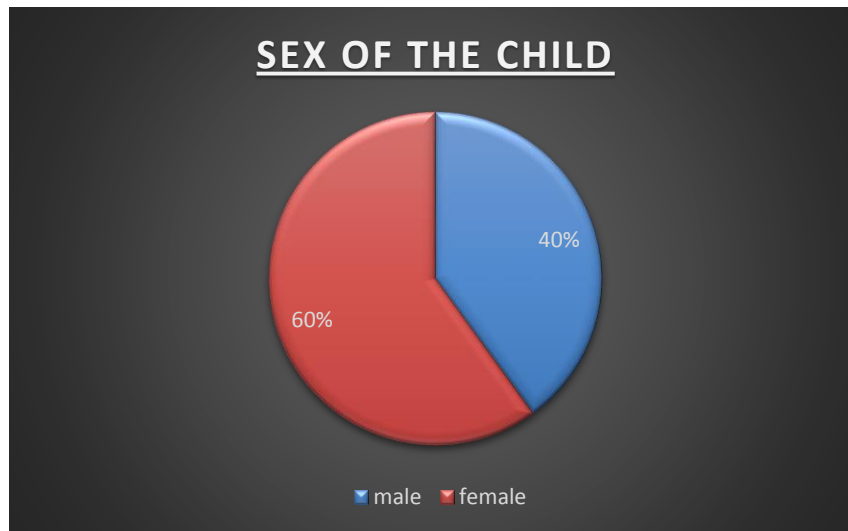
A self-prepared structured interview schedule was prepared and pre-tested in the field. The result obtained from pilot testing was analysed and necessary modification was made prior to the actual data collection. We were accompanied by local CC to facilitate conversation in local dialect with mothers of selected children. The questionnaire was used to collect information on the respondent's socio-demographic status; water, sanitation, and hygiene practices; infant and young child feeding (IYCF) practices; coverage of the ICDS program and detailed information was collected on coverage and consumption of fortifies take home ration.

To measure nutritional grade of child, MUAC tape was used. Three colour coded categories are given in it: Green for normal, yellow for under-weight and red for severely under-weight child.

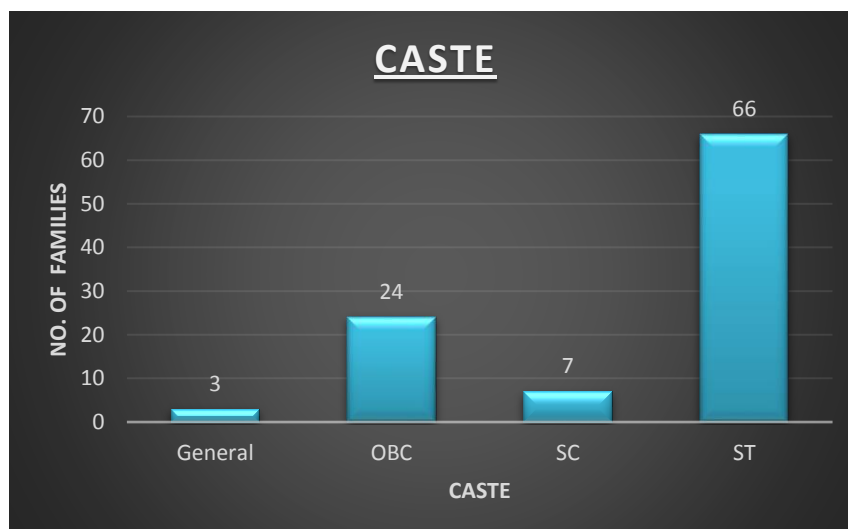
Data processing and Analyses:

Data collected was entered in Statistical Package for Social Sciences (SPSS) for analysis. Descriptive analysis was used to calculate frequencies and percentages. Chi-squared test was used to assess statistical significance.

ANALYSIS AND RESULTS:

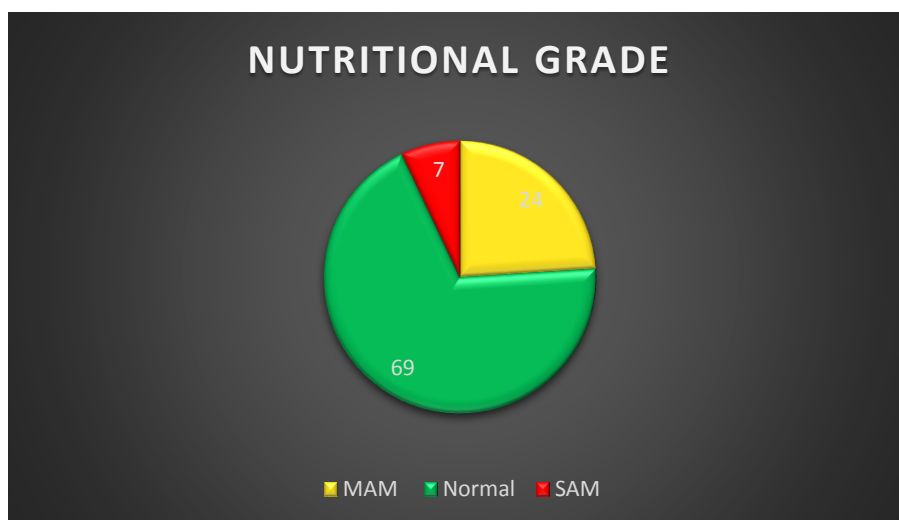


Pie Chart 1 – SEX OF CHILDREN



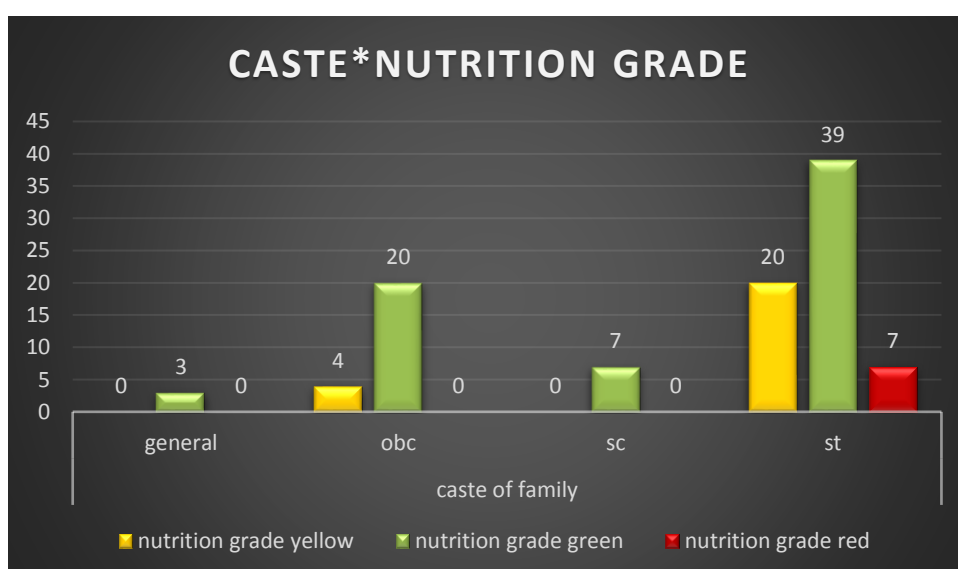
Graph 1 – CASTE OF THE RESPONDENTS

The dataset included data points from a sample population split as 3:2 males vs females as shown in the graph. Furthermore, out of a total of 100 families observed, majority (66) were from the Scheduled Tribes. It was followed by Other Backward Caste families (24) and Scheduled Caste families (7). A mere 3 families were from the General category of the population.



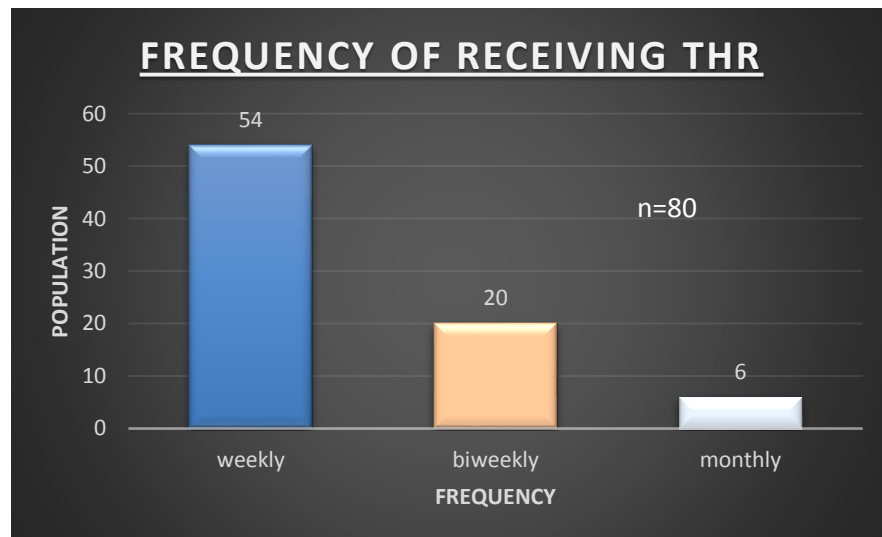
Pie Chart 2 – NUTRITIONAL GRADE OF CHILDREN BY MUAC TAPE

As per the observed data, more than two-third of the monitored population lied in the green zone of the nutrition chart, whereas 7 percent were in the red zone. The remaining 24 percent of the observed population lied in the yellow zone which denotes undernourished children. This 24 percent of the population can very well be monitored and helped through to the green zone with regular access to proper nutritional food. The 7 percent lying in the red zone are severely undernourished children which needs to be intensely taken care of for them to lead a healthy life, as malnutrition causes other health issues that would otherwise be less prevalent.



Graph 2

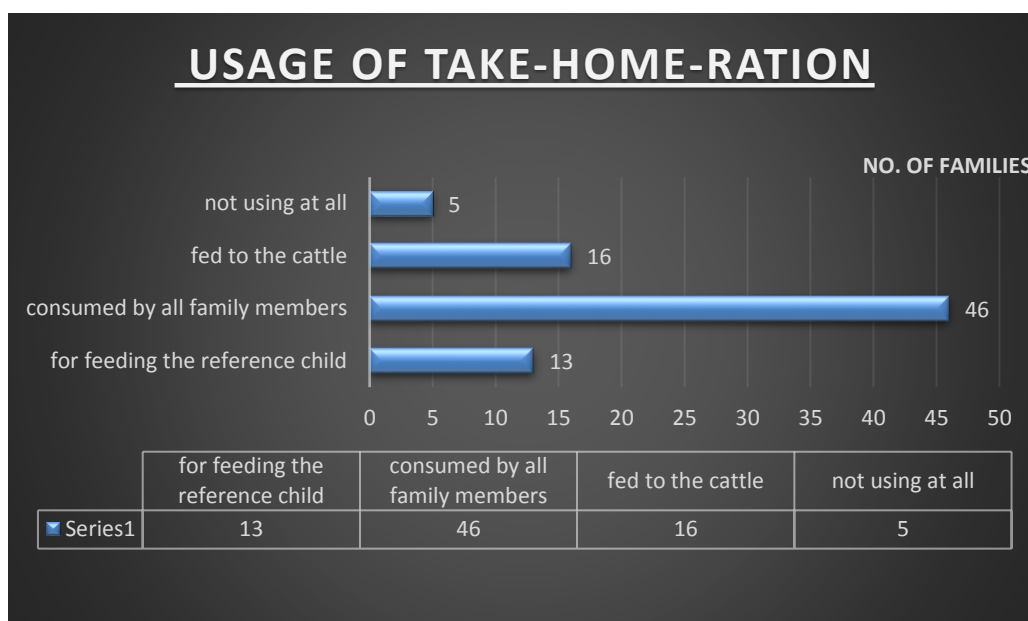
From the above graph, we see that all children belonging to general caste were healthy whereas the highest number of SAM fall belong to schedule tribe. Maximum number of MAM & SAM belongs to OBC or ST.



Graph 3- FREQUENCY OF RECEIVING THR

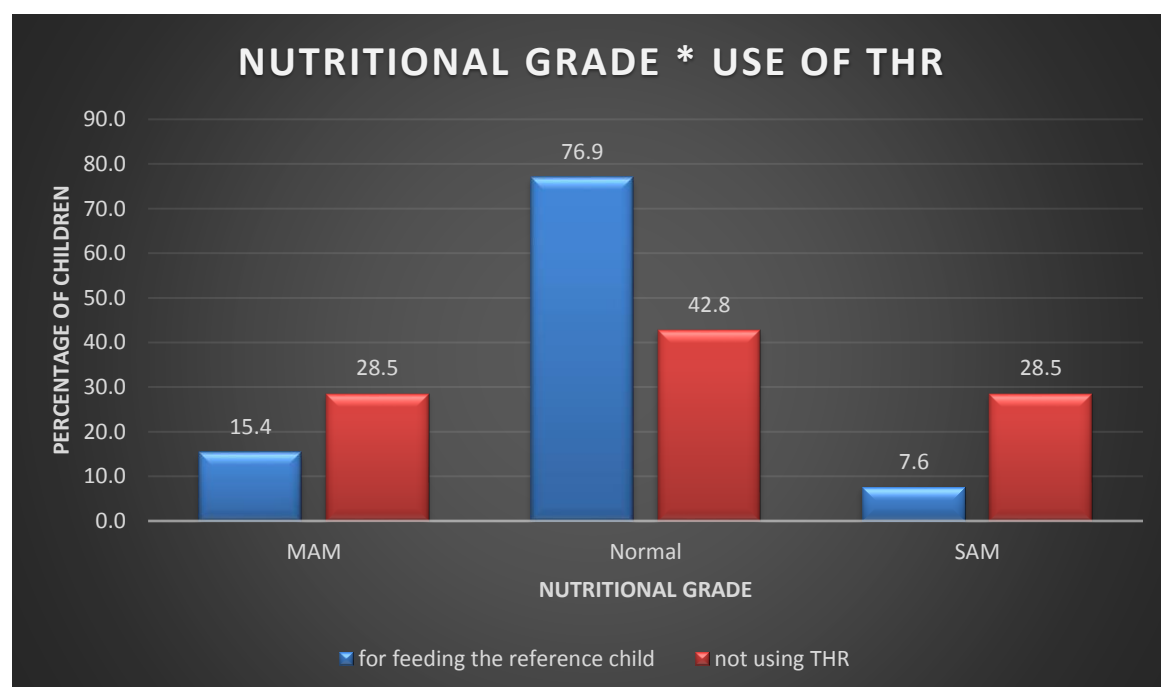
Out of 100 children, 83 were entitled to receive THR and nearly all of them, that is 80 of them received THR. Only four percent did not receive it.

67 percent of the families received THR once a week, while 25 percent of them only received it once per 2 weeks on average. The remaining only received it once a month. This shows that people who most require it are not regularly consuming the THR and thus, leading to poor performance on the nutritional chart.



Graph 4- UTILIZATION OF THR

Out of 80 families monitored, only 16 percent used it fairly, that is, fed baby mix exclusively to the reference child, while in 46 other cases, the THR was consumed by the whole family, thus the target children consumed smaller amounts than intended, affecting the nutritional grade of the children in question. Around one-fourth of the families either fed the ration to their cattle or threw it away, leading to wastage.



Graph 4 – NUTRITION GRADE OF CHILDREN IN RELATION TO USAGE OF THR

- As per the data collected during my research at Khamnor, the families where the THR was fed to the reference child seem to be doing well when it comes to the health of the child. Among children from such families, more than three-fourth (77%) were living a normal and healthy life, as opposed to less than half (only 43%) where the child did not have access to the THR.
- The fraction of children suffering from malnutrition also increases in the cases where no THR was fed to the reference children. The data shows that 29% of the children face Moderate Acute Malnutrition (MAM) and around as much face Severe Acute Malnutrition (SAM) in cases where no THR was fed to the children.
- The positive effects of THR on the child's health can be seen from the data here, as only 15% of the children suffer from MAM and an even lesser 7.6% of them suffer from SAM in cases where the THR was consumed by the children.

caste of family * how do you use baby mix Crosstabulation						
Count						
		how do you use baby mix				Total
		for feeding the reference child	consumed by all family members	fed to the cattle	not using at all	
caste of family	general	0	1	0	0	1
	obc	4	7	9	1	21
	sc	0	7	0	0	7
	st	9	31	7	4	51
Total		13	46	16	5	80

In 58 percent of the families, THR was shared between all family members whereas out of 80 families receiving baby mix, only 13 were using it properly by feeding it exclusively to the reference child. Other 25 percent which belonged to Schedule tribe and OBC, either fed it to the cattle or didn't consider it important to include it in their child meal. When applied chi-squared test the p value was 0.00 i.e. $p < 0.05$ which means there is an associated between the nutritional grade of the child and use of THR.

CASE STUDY

This case study shows the effects of factors affecting nutrition on a child.

NAME : KUSUM GAMETI

SEX : Female

CASTE : ST

DOB : 27/08/2016

AGE : 2 years 7 months (2.58 years)

NUTRITIONAL STATUS : RED in growth chart as well as by MUAC tape

PHYSICAL APPEARANCE : Very weak and thin

: Unable to stand by herself

NAME	SEX	RELATION	AGE	OCCUPATION
REKHA	F	Mother	20	Housewife
DEEPAK	M	Father	22	Labour
X	M	Brother	5	
y	F	Sister	4	
KUSUM	F	Self	2.58	



- FAMILY SIZE – 9 members (Staying with her mother).
- Family belongs to BPL category (financially very poor).
- Living in a rented house.
- MOTHER – 20 Yrs., illiterate.
- Early child marriage : mother's age- 15 years; father's age- 17 years.
- Faced **domestic violence** at in-laws, came to live with her mother during pregnancy.
- **Three sisters** of Rekha **married together** to save money spent for marriage.
- Adopted family planning method after birth of Kusum.
- The other two children aren't allowed to live with mother; live with grandmother.
- All of the three children were born by **caesarian operation**.
- Interval between subsequent births less than 3 in each case. →
- Mother didn't avail ANC services due to work load and frequent migration.



- Kusum was born with low birth weight (< 2.5 kgs) i.e. =1.62kgs
- Kusum was born a month ago of what was expected (**pre-mature child**)
- Was not fed with colostrum, breastfeeding initiated after 3 days
- Was admitted to special born care for treatment. Weighted 1.49 kgs even after treatment

Present weight-	9.60kgs
Present height-	90cms
MUAC tape	15.3cms

- The child suffered from cough, fever, diarrhea, went to Khamnor. No prescription for malnourishment was given
- Eating habits: 2-3 bites of roti a day, khichdi & goat's milk
- Didn't receive THR as they aren't enrolled at Dabun anganwadi
- Toilet absent
- Recently, the child was referred to MTC (Malnourishment Treatment Centre) by cluster coordinator as she was underweight to which the family initially refused to go, but agreed after insisting

CONCLUSION :

- The finding of the project show that the consumption of THR helps new born and other target groups lead a healthy life, thus helping tackle the menace of malnutrition
- This study also shows that intra-household sharing was common, a phenomenon that has been encountered in several families receiving take home ration which is exclusively meant for feeding the reference child
- However, the injudicious usage of the THR has caused the program's implementation unsuccessful in many ways
- The wastage leads to loss of public resources while at the same time causing a great scheme by the government to fail

RECOMMENDATIONS:

This study found that intra-household sharing was common, a phenomenon that has been encountered in several families receiving take home ration which is exclusively meant for feeding the reference child.

This problem can be overcome by the following methods and practices:

- (i) increasing awareness by providing understandable messages to ensure that only the target children consume the food
- (ii) increasing the portion of the baby mix to ensure that the target children still receives sufficient amounts of the food even if sharing takes place
- (iii) need of behaviour change by organising local meetings which include caretakers and explain them the importance and the proper use of THR

ANNEXURE
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. Green
2. Yellow

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 labour
2. Other labour
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 homemade 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 centres?

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. Diarrhoea
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

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