USE OF MOTHER CHILD PROTECTION CARD FOR IMPROVING INFANT FEEDING PRACTICES

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INTRODUCTION

- The importance of child nutrition as a major determinant of mortality and morbidity during childhood and growth during infancy, childhood, adolescence and adult life has been well recognised.
- Available data suggest that poor infant and young child feeding (IYCF) practices and availability and accessibility of health care for morbidity are the major modifiable factors associated with under-nutrition in under-three children.
- Over the last few decades there has been substantial reduction in household food insecurity and improvement in access to health care for morbidity.
- There has been rapid reduction in under-five mortality in the last two decades but reduction in under-nutrition levels in under-five children has been relatively slow.
- Major factors identified which are responsible for rise in under-nutrition rate during infancy and early childhood are:
 - √ too early introduction of animal milk
 - ✓ delay in introduction of semi-solid complementary feeds
 - ✓ inadequacy in number of quantity and quality of semi-solid complementary feed
- The Mother Child Protection Card (MCPC) was designed as the critical intervention tool to support the front line health and nutrition workers to effectively communicate nutrition education messages to mothers on appropriate infant and young child feeding practices, care and feeding during illness and convalescence.

MOTHER CHILD PROTECTION CARD

- Mother Child Protection Card was developed jointly by the Ministry of Women and Child Development and Ministry
 of Health and Family Welfare as a critical intervention tool for combating under-nutrition during infancy and early
 childhood through nutrition and health education and early detection and effective management of growth
 faltering.
- The card provides:
 - ✓ a structured format in which health and nutrition related information pertaining to pregnancy and first three years of the child's life could be entered;
 - ✓ a separate growth chart for boys and girls (in which WHO MGRS standards have been indicated) to plot weightfor-age and monitoring growth in the first three years; and
 - ✓ authentic health and nutrition education messages (both pictorial and written) on infant and young child feeding, growth and development, and care during illness and convalescence.
 - √ timely reminder for immunization
- The card has been translated into all the major languages of India and made available to the State governments.
- The States were given the responsibility of printing and distributing the cards.

Integrated Child Development Services



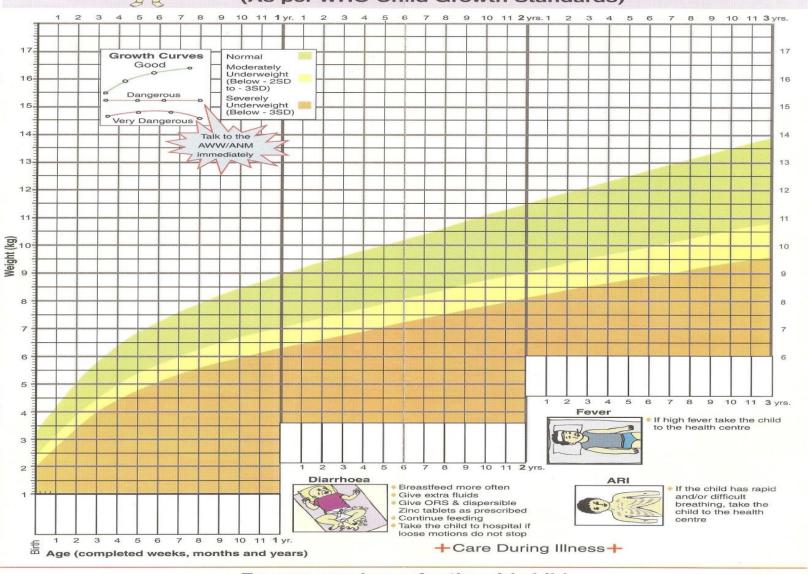
Photograph of Mother & Child

| Family Identification |
|--|
| Mother's NameAge |
| Father's Name |
| Address |
| Mother's Education: illiterate/primary/middle/high school/graduate |
| Pregnancy Record |
| Date of the last menstrual period / / |
| Expected date of delivery / / |
| No of pregnancies/ previous live births / |
| Last delivery conducted at: Institution Home |
| Current delivery: Institution Home |
| JSY Registration No |
| Birth Record |
| Child's Name |
| Date of Birth / / Birth Weight kgs gms |
| Girl Boy Birth Registration No: |
| Institutional Identification |
| AWWAWC/Block |
| ASHAANM |
| SHC / Clinic |
| PHC / Town Hospital Address |
| Transport Arrangement |
| Anganwadi Sub-centre Reg. No Date |
| Referral |
| Food & Nutrition Board Ministry of Women & Child Development, Government of India |

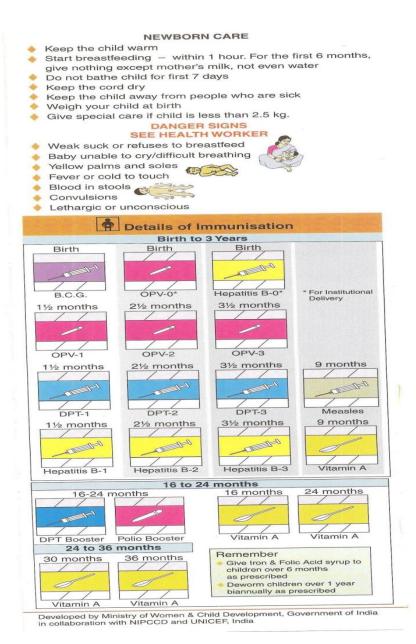
WHO Growth Standards



GIRL: Weight-for-age — Birth to 3 years (As per WHO Child Growth Standards)



Timely Reminder for Immunisation

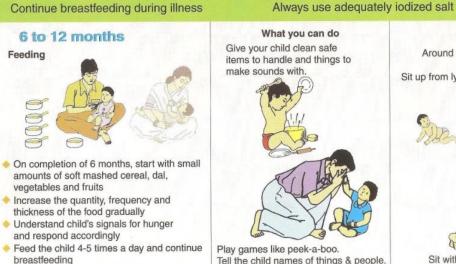


Health and Nutrition Education Messages

Feeding, playing and communicating with children helps them grow and develop well



Always use adequately iodized salt for the family





If the child seems slow, increase feeding, talking and playing. If the child is still slow, take the child to a doctor

Feeding, playing and communicating with children helps them grow and develop well

1 to 2 years

Feeding





- Continue to offer a wide variety of foods including family foods, such as rice/ chappati, dark green leafy vegetables, orange & yellow fruits, pulses and milk products
- Feed the child about 5 times a day
- Feed from a separate bowl and monitor how much the child eats
- Sit with the child and help her finish the serving
- Continue breastfeeding upto 2 years or beyond

What you can do

Give your child things to stack up & to put into containers and take out.





Ask your child simple questions. Respond to your child's attempts to talk.

What children can do

Around 11/2 years most children can

Express wants



Walk well

Around 2 years most children can



Imitate household work

Continue breastfeeding during illness

Always use adequately iodized salt for the family

Child needs extra food after illness

2 to 3 years

Feeding



- Continue to feed family foods 5 times a day
- Help the child feed herself / himself
- Supervise feeding
- Ensure hand washing with soap before feeding

What you can do

Help your child count and compare things; make simple toys for your child.



Encourage your child to talk & respond to your child's questions. Teach your child stories, songs, and games.

What children can do

Around 21/2 years most children can

Point to 4 body parts



Feed self spilling little



Name one colour correctly

Around 3 years most children can

Copy & draw straight line



Name 3 out of 4 objects

If the child seems slow, increase feeding, talking and playing. If the child is still slow, take the child to a doctor

HYPOTHESIS

Under-nutrition rates in under-five children continue to be high.

Poor infant and young child feeding and caring practices had been identified as the major modifiable factors associated with under-nutrition especially in the critical first two years. Mother Child Protection Card (MCPC) is a critical intervention tool for combating these two factors and improving nutritional status of children.

OBJECTIVE

 to assess feasibility and impact of using MCPC as a supportive tool for nutrition and health education regarding infant and young child feeding and care during illness

- The present study was conducted in the urban low middle income communities among mothers with relatively high literacy rates.
- In this milieu the study explored:
 - ✓ acceptance and safe keeping of the MCPC by the mothers
 - ✓ use of MCPC as a tool for nutrition education by the ANM AWW and research team
 - ✓ weighing and plotting of growth in MCPC growth chart by AWW and research team

LOCALE OF STUDY

Anganwadi's of Nebsarai, Lado Sarai and Andheria Mod of South Delhi

INCLUSION CRITERIA

- Willing
- low or low middle income group households
- Infants under one of age

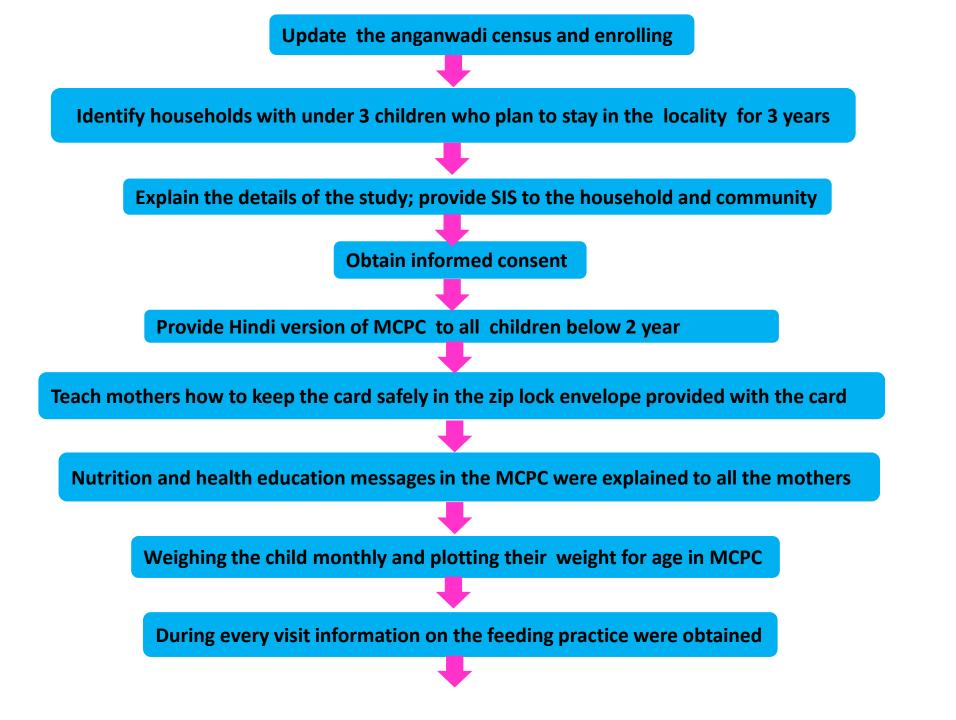
EXCLUSION CRITERIA

- Not willing
- High income group households
- Single men and women who are students or employees who are staying as tenants/paying guests

APPROVALS

- Permission to conduct the study was obtained from Department of Women and Child Development, NCT, Delhi.
- Approval to undertake the study was obtained from the Institutional Ethics Committee of Nutrition Foundation of India,
 New Delhi.

STUDY DESIGN



If the practice was inappropriate, MCPC was used to show the mother the right feeding practice for age and tried to convince the mother to correct the feeding practice



If the child was ill at the time of the visit, advised was given to the mother to access health care and feeding during illness and convalescence



When seeking child care, mothers were requested to take MCPC with them and give it to AWW or ANM which enable AWW/ANM to enter all data pertaining to the child in the MCPC; and provide appropriate nutrition and health advice



Evolve, test and finalize the modified MCPC which has IYCF, morbidity and growth in the same page

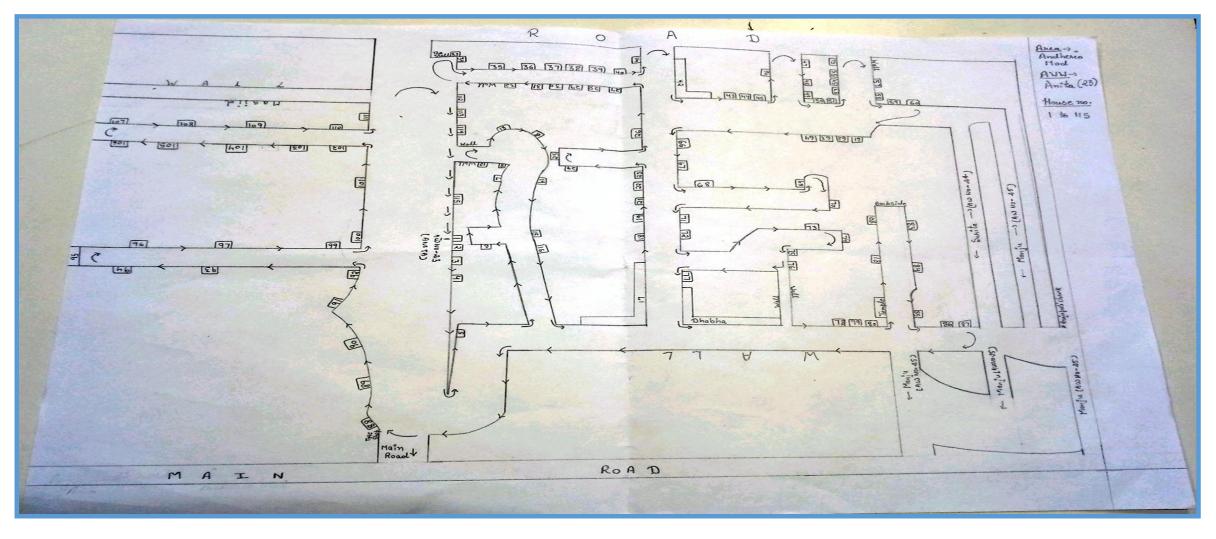


Start plotting the data on growth, IYCF and morbidity on the modified card



Assess whether having all the data on one page improves identification of cause of growth faltering

MAP OF ANGANWADI SHOWING CENSUS



- A census of all the households in selected blocks in South Delhi was done in January 2015 and subsequently updated in January 2016 and 2017
- Map was constructed of all 30 anganwagis; this makes easy identification of households possible .

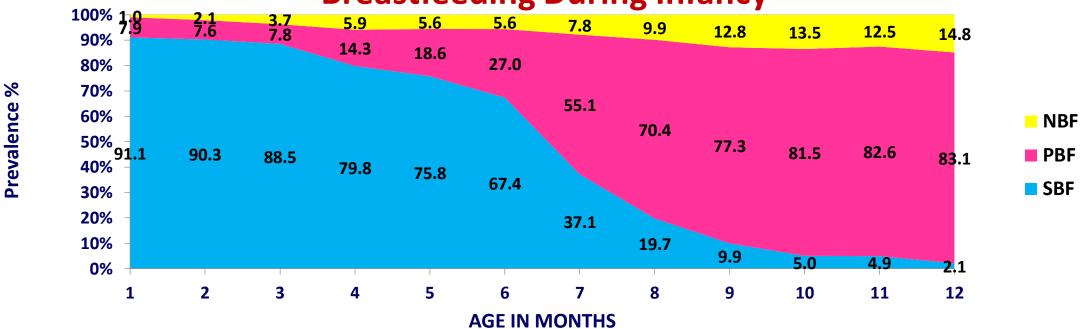
RESULTS

| Numbe | er of children stu | udied | | |
|-------------------------------------|--------------------|-------|------|-------|
| | 2015 | 2016 | 2017 | Total |
| Total no. of children (0-35 months) | 1480 | 1041 | 1198 | 3718 |
| Total no. of visits | 9715 | 5191 | 4899 | 19805 |
| Average number of visits/year | 6.6 | 5 | 4.1 | 5.3 |
| Visits in 0-11 months of age | 2817 | 1365 | 1675 | 5857 |
| Visits in 12- 23 months of age | 3508 | 1928 | 1761 | 7197 |
| Visits in 24-35 months of age | 3390 | 1898 | 1463 | 6751 |

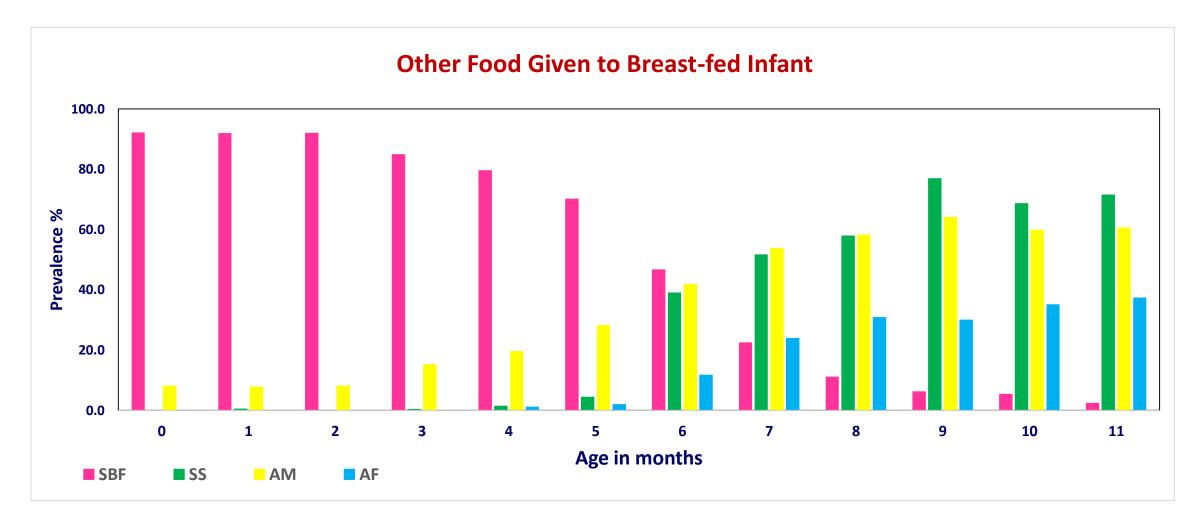
Table shows average number of visits per child with data on infant feeding, morbidity and anthropometry

- Mothers accepted the MCPC, and kept it safely in the zip lock envelope.
- During the follow-up period all except six women were able to provide the card as and when the research team requested for it.
- Whenever they took their children to the anganwadi and health facility, they took MCPC and gave it to the AWW or ANM.



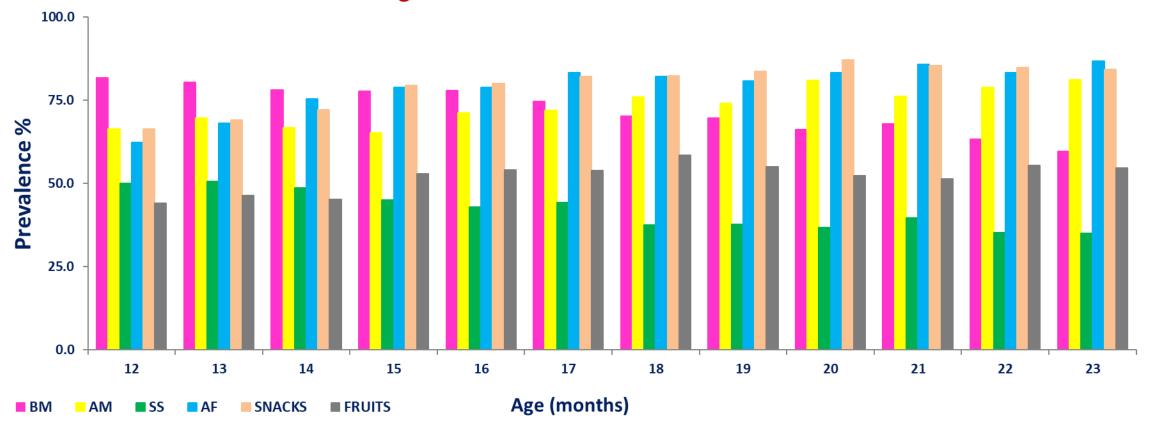


- In India breast feeding is nearly universal; because of this the infants do get a good start in life.
- Data on infant feeding practices in the study children is shown in Fig.
- Over 90% of the mothers were giving only breast milk to their infants in the first two months of life.
- Even at 5 months over two-thirds of the women solely breast-fed their infants. Very few children continued to be solely breast-fed beyond nine months.
- Breast feeding continued in the 6-11 months; only 15% of women stopped breast feeding at 11 months



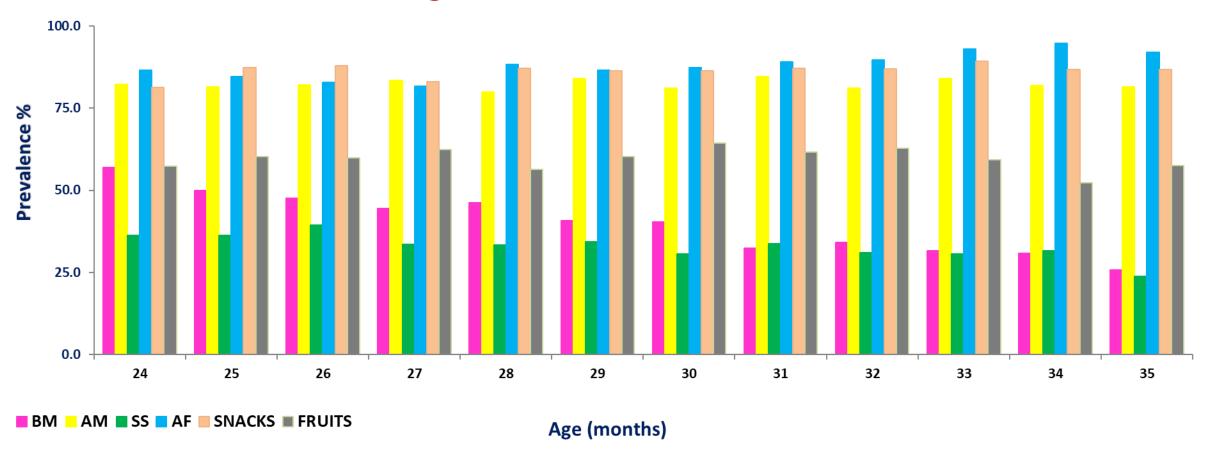
- Fig. shows over 50% of mothers had introduced animal milk and semi-solids by the 7th month
- By 9th month over 3/4th all infants received semi-solid feeds and one-third received mashed adult food.

Other food given to 12-23 month old breast-fed children

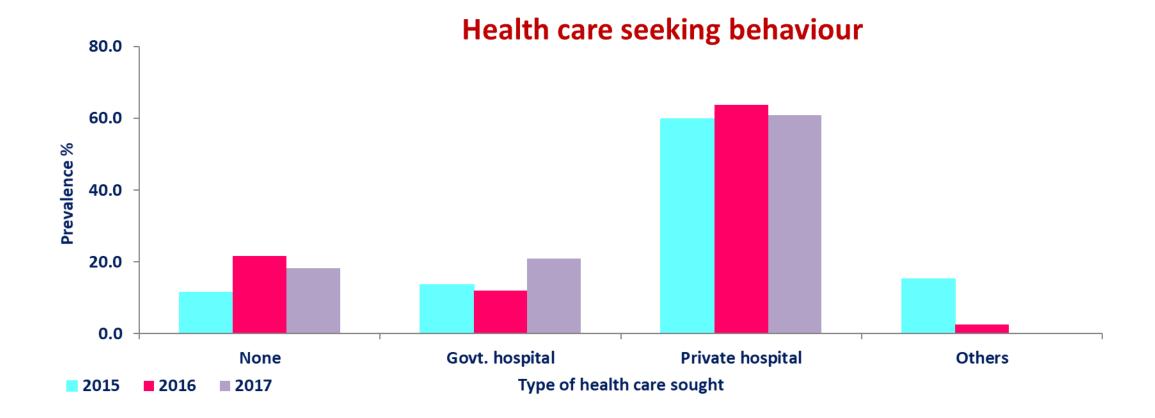


- In the 12-23 month age group majority of children continued to get breast milk/animal milk and some mashed adult food.
- They ate meals along with the family who were following the three meal pattern.
- Some children were given some snacks or fruit between meals

Food given to 24-35 month old children



• In the third year almost all children were having three meals with adults and some animal milk, snacks and occasionally fruits.



- The advice that if the children are ill for 3 or more days they should be taken to the health care provider was followed by over 90%.
- As a result none of the children had severe infection requiring hospitalization.
- Mothers followed the nutrition education messages on feeding during illness and convalescence.

Mean WAZ in under-3 children

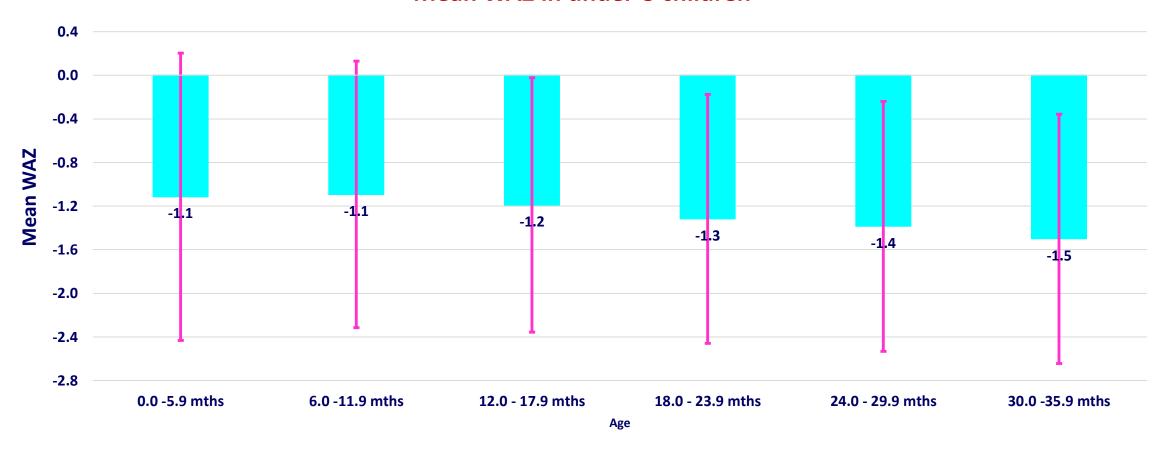
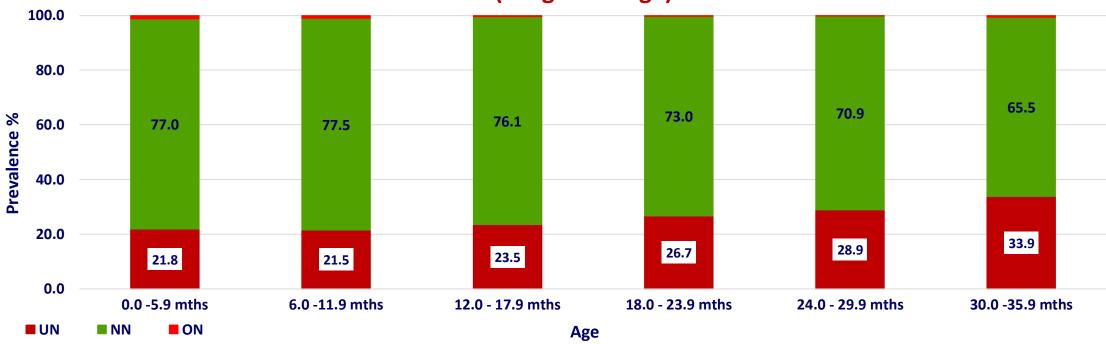


Fig. shows Z scores for weight-for-age in the first three years of life.

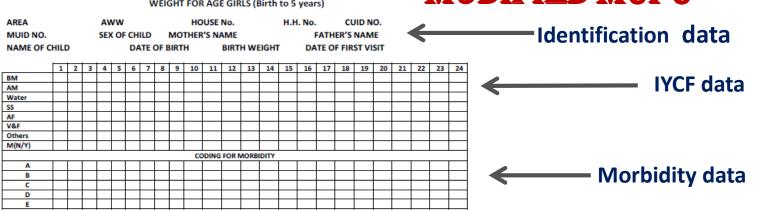
Nutritional status (weight-for-age) of under-3 children

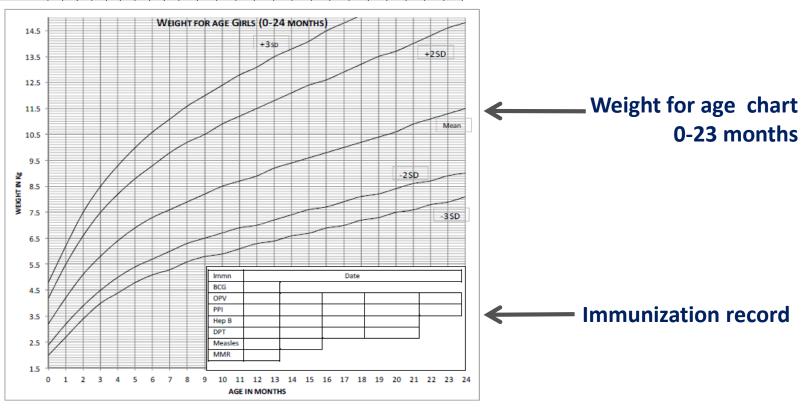


- Prevalence of underweight (weight-for-age) is shown in Fig.
- There was no deterioration in the mean z scores for weight-for-age or increase in prevalence of undernutrition in the first 11 months.
- Subsequently, there was a slow but progressive deterioration in the z scores for weight-for-age and increase in underweight rates between 12-35 months of age.

MODIFIED MCPC

WEIGHT FOR AGE GIRLS (Birth to 5 years)





A modified growth chart was developed which has information on IYCF and morbidity on the same page above the growth which shows the chart temporal linkage between poor feeding practices, illness and growth faltering and makes it easier to provide appropriate nutrition health and education to the mother and the family.

(A)Type of Morbidity 1. Diarrhea 2. Dysentery 3. Fever 4. Respiratory infection 5. Eruptive fever 6. Skin disease 7. Any other (B) Duration- 1. <3 d 2. 4-7 d 3. >7d (C) Severity- 1. Mild 2. Moderate 3. Severe (D) Treatment 1. Hosp 2. Dr. 3. Nurse 4. Unqualified (E)1. Improved 2.Deteriorated 3. No change

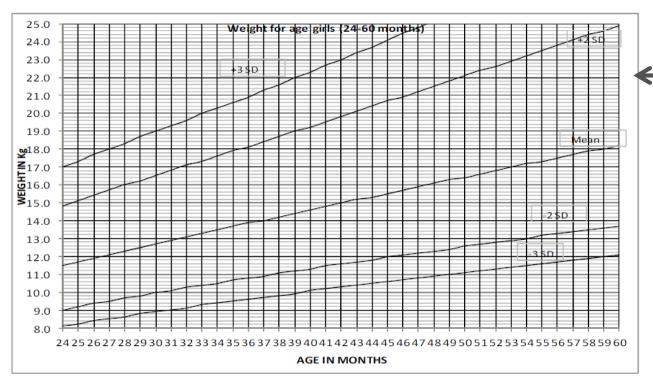


Coding for morbidity data

MODIFIED MCPC

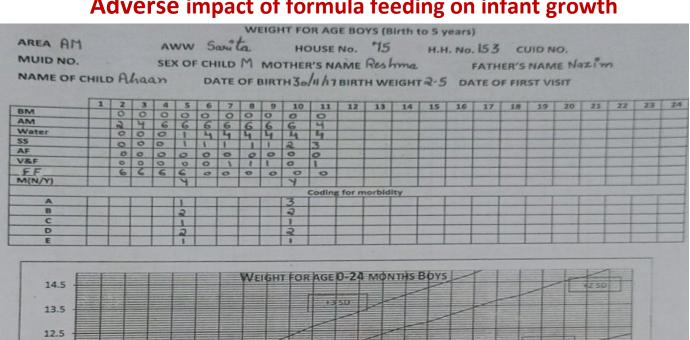
WEIGHT FOR AGE GIRLS (2 to 5 years)

| | _ | _ | | - | ÷ | | <u>.</u> | _ | - | _ | _ | | _ | _ | | _ | | - | - | _ | | | | | | _ | _ | | | | - | | _ | | _ | | | - | |
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| | 24 | 25 | 26 | 27 | 7 28 | 3 2 | 9 30 | 3: | 1 3 | 2 3 | 3 3 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | | |
| BM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | \leftarrow | — IYCF data |
| AF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V&F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M(N/Y) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CODING FOR MORBIDITY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Α | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| В | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Morbidity data |
| C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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■ Weight for age chart -24- 59 months

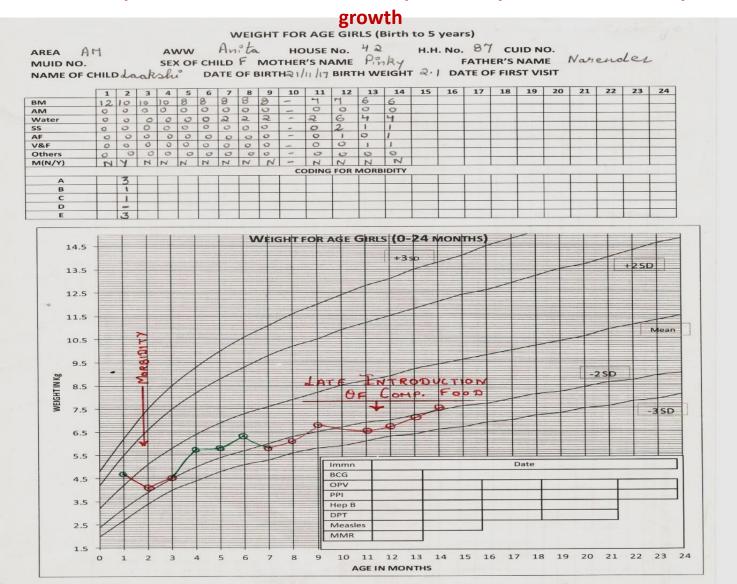
Adverse impact of formula feeding on infant growth





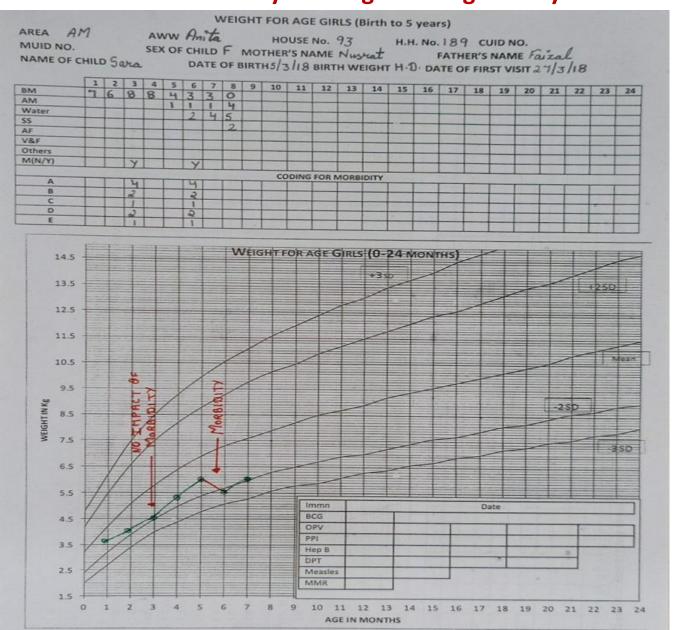
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Adverse impact of late introduction of complementary feeds and morbidity on



(A)Type of Morbidity 1. Diarrhea 2. Dysentery 3. Fever 4. Respiratory infection 5. Eruptive fever 6. Skin disease 7. Any other (B) Duration- 1. <3 d 2. 4-7 d 3. >7d (C) Severity- 1. Mild 2. Moderate 3. Severe (D) Treatment 1. Hosp 2. Dr. 3. Nurse 4. Unqualified (E)1. Improved 2. Deteriorated 3. No change

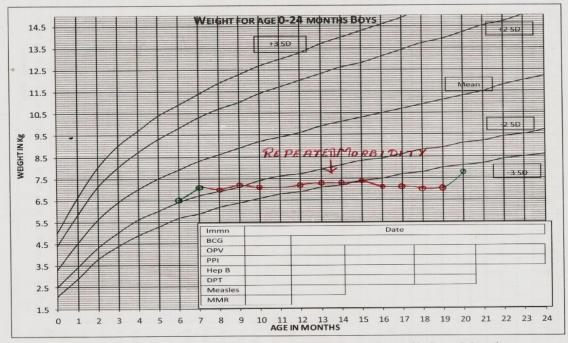
Effect of morbidity on weight during infancy



(A)Type of Morbidity 1. Diarrhea 2. Dysentery 3. Fever 4. Respiratory infection 5. Eruptive fever 6. Skin disease 7. Any other
(B) Duration- 1. <3 d 2. 4-7 d 3. >7d (C) Severity- 1. Mild 2. Moderate 3. Severe (D) Treatment 1. Hosp 2. Dr. 3. Nurse 4. Unqualified
(E)1. Improved 2. Deteriorated 3. No change

Effect of repeated infections on growth

| AREA A | | | | SEX | OF | СН | An | ta | MO | HO | USE 'S NA | No. | 10 P; | n k | н.н | . No. | 2 E ATH | ER'S | NAM | E D | เริกอ | 54 | | |
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| вм | | | | | | 10 | 7 | 4 | " | 1 | | - | - | - | | | 4 | 4 | 4 | 4 | | | | |
| AM | | | | | | 0 | 1 | 1 | | 2 | | 0 | 0 | 2 | 7 | 4 | | 6 | 6 | 4 | | | | |
| Water | | | | | | 2 | 1 | | 2 | 2 | | 4 | 3 | | 5 | 4 | 49 | | 6 | 7 | | | | |
| SS | | | | | | 2 | 2 | 0 | 2 | 0 | | 2 | 2 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | | | | |
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| V&F | | | | 1 | | | | - | 0 | 1 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Others | | | | | | | - | | 2 | 0 | | 0 | 0 | 0 | 0 | 0 | O | 0 | 0 | 0 | | | | |
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SUMMARY AND CONCLUSION

A community based mixed longitudinal study was taken up in urban low middle income group mothers with under-three children to assess feasibility and impact of using MCPC as a supportive tool for nutrition and health education regarding infant and young child feeding and care during illness.

Mothers readily accepted MCPC, kept it safely and produced it when requested.

MCPC with authentic pictorial messages was used by all health and nutrition front line workers and research team; this practice ensured uniformity in nutrition and health education messages.

Over 90% of infants at 2 months and over 2/3rd at 5 months were solely breast-fed. By 8th month almost all infants received semi-solid food.

Almost all families accessed health care during illness and followed the advice regarding feeding during illness and convalescence.

As a result the mean z scores for weight-for-age did not show any deterioration in the first year.

MCPC is a useful tool in providing nutrition and health education, and improving infant feeding practices

