Assessment of Facility-based management of children with Severe Acute Malnutrition at Tapi District, Gujarat

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INTRODUCTION

- Severe acute malnutrition (SAM) is defined as:

  - Very low weight-for-height/length (Z- score below -3SD of the median WHO child growth standards)
  - Mid-upper arm circumference <115 mm
  - Presence of Bilateral edema

- The prevalence of SAM in children is very high in spite of overall economic development in India

- National Family Health Survey-3 (NFHS-3) showed that prevalence of severe wasting is 6.4 percent among all children under-five years of age

- The NFHS data on the nutrition status of children in Gujarat shows that 41.1% of under three and 45% under five children are under-weight.

- Amongst Under-three children 49.2% are stunted and 19.7% are wasted. Rate of under five children with (<3SD) weight for height which is a cut off for SAM is 5.8%.

- SAM leads to growth retardation and impaired psychosocial and cognitive development. Undernourished children have significantly higher risk of mortality and morbidity.

- SAM is a preventable and treatable cause of morbidity and mortality in children.

- To reduce morbidity and mortality among children with SAM, particularly those with medical complications**, facility based management** has been started with the objective to provide clinical management and to promote physical and psychosocial growth of these children.

- In Gujarat, Facility-based management is provided by Nutrition Rehabilitation Center (NRC) as "Bal Sanjeevani Kendra at District hospital and **Child Malnutrition Treatment Center (CMTC)** as "**Bal Sewa Kendra**" at PHC/CHC/ Sub District level

RATIONALE

- The NFHS data of Gujarat shows that 19.7% of under- three are wasted and rate of under five children with weight for height(<3SD) is 5.8% . SAM children have significantly higher risk of mortality and morbidity.

- It has been established that early childhood nutrition is the single most important child survival intervention. **Facility based management** has been started with the objective to provide clinical and nutritional management and to reduce number of deaths due to severe wasting.

- Thus, this study was conducted to assess the availability of services at NRC/CMTCs in terms of infrastructure, human resources and equipment and to study the output indicators to assess their performance in improving the nutritional status of children.

Research question

What is the effectiveness of facility-based care (Nutritional Rehabilitation Centers/Child Malnutrition Treatment Centers) for children with severe acute malnutrition (SAM) in Tapi district, Gujarat?

OBJECTIVES

- To assess the availability of services at NRC and CMTCs in Tapi District in terms of infrastructure, human resources and equipment according to the Operational Guidelines on Facility Based Management of Children with SAM(Ministry of Health and Family Welfare)

- To assess knowledge levels of staff regarding admission, feeding and discharge criteria of children with SAM.

- To study the output indicators of NRC and CMTCs to assess their performance in improving the nutritional status of admitted children.

METHODOLOGY

- Study Design- Observational study (to assess NRC/CMTC based on checklist, descriptive cross sectional study (to assess the knowledge levels of Staff).

- Study Area- All the 5 Blocks of Tapi district:

  1 NRC, 5CMTCs (one in each block)

- Study Participants- Facility-based management staff

  Children admitted during the study period

- Data (information) to be collected-
  - By Observation
  - Facility Checklist Format
  - Questionnaire to test knowledge of service provider
  - Facility registers.

- Data collection tools-
  - Checklist
  - Structured Questionnaire

- Data analysis plan- Filled Questionnaire and facility records checked for completeness and correctness and data will be entered in MS Excel for further analysis.

RESULTS

1)To assess the availability of services at NRC and CMTCs in Tapi District in terms of infrastructure, human resources and equipment according to the Operational Guidelines on Facility Based Management of Children with Severe Acute Malnutrition(Ministry of Health and Family Welfare)

INFRASTRUCTURE

- NRC functioning in the District Hospital and all 5 CMTCs in CHCs of respective blocks are 10 bedded units.

Distribution of health facilities on the basis of infrastructure:

Physical facilities	NRC/CMTCs(n=6)	
	Number	**Percentage**
Separate patient area	6	100
Separate play and counseling area	6	100
Separate nursing station	0	0
Kitchen and food storage	6	100
Attached toilet and bathroom facility	4	66.6

Displays	Number	Percentage
All feeding and medicine panels, growth monitoring charts displayed	4	66.6
Data as per MPR and Quarterly Progress displayed	4	66.6
Bed side boards displayed with information of child	0	0
Cheerful and stimulating environment with walls brightly painted and decorated	4	66.6
24 hour uninterrupted running water supply	6	100
24 hour uninterrupted power	6	100
Well lit and adequately ventilated	6	100

Human Resources

Distribution of health facilities on the basis of availability and training status of health personnel

STAFF	NRC/CMTCs(n=6)			
	Number	Percentage	Training status	Percentage
Medical officer	1	100	3	50
Staff nurse	2	100	0	0
Nutritionist	1	100	0	0
Cook cum care taker	2	100	-	
Attendant/cleaner	1	100	-	`
Medical social worker	1	100	-	

Medical officer and staff nurse visits the facility on a regular basis and are available on-call if any emergency arises.

EQUIPMENT

SNO.	ITEM	QUANTITY
1	Length board	1
2	Electronic weighing machine	1
3	MUAC tapes	2
4	Measuring cups and spoons	2 set
5	LPG connection and stove(4 burners)	1
6	Storage Tins for Kitchen	10
7	Feeding Utensils- Katori, Spoon, Plates, glasses	20
8	Cooking Utensils	
9	Geyser for bathroom	1
10	Refrigerator	1

SNO.	ITEM	QUANTITY
11	Water purifier	1
12	Mixer	1
13	Room heater	1
14	Room and Digital thermometer	1
15	Cots, linen, mattresses, blankets	20
16	TV with DVD player	1
17	Toys for children	
18	Soft boards and white boards	

2)TO ASSESS KNOWLEDGE LEVELS OF STAFF REGARDING ADMISSION, FEEDING AND DISCHARGE CRITERIA OF CHILDREN WITH SAM

- Nutritionists of the facilities were interviewed and their knowledge level was found to be adequate.

- All of them gave the correct answers of all the questions asked related to admission criteria, F-75 and F-100 diets and discharge criteria

3)To study the output indicators of NRC and CMTCs to assess their performance in improving the nutritional status of admitted children.

Analysis of the admitted children based on weight

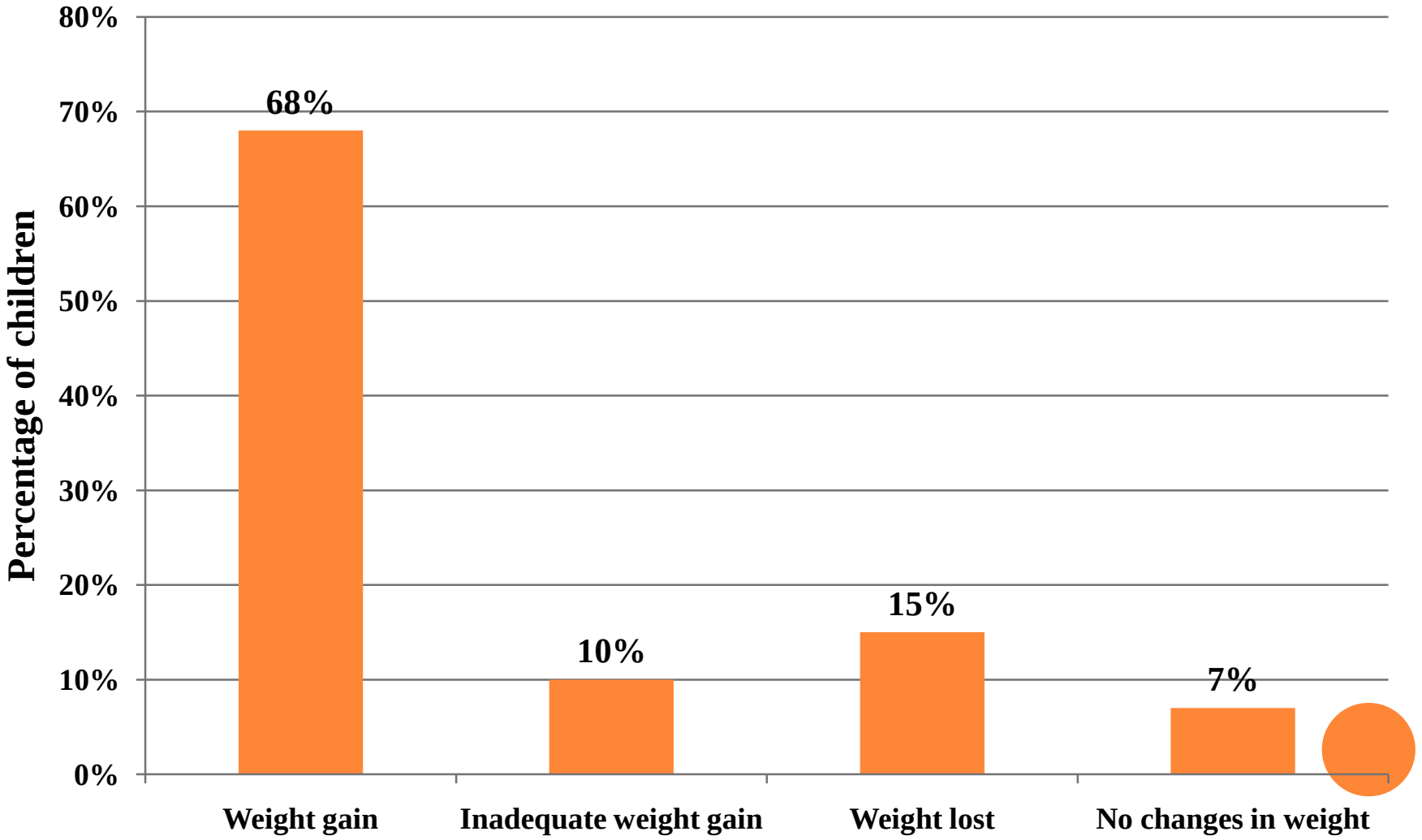
- A total of 107 children were admitted in the facilities during the study period.
- Out of total, 100 children were included in the analysis (42 boys and 58 girls)
- Seven children (3 boys and 4 girls) were excluded as they did not stay at the centers for the entire duration of 14 days.
- Of them, two children were referred and five children dropped out.

- Children were typically admitted for 21 days and discharged (on the 21st day) when no signs of illness was present, Oedema resolved, immunization was updated, satisfactory weight gain of 7-10 % and child started eating an adequate amount of nutritious food that the mother can prepare at home

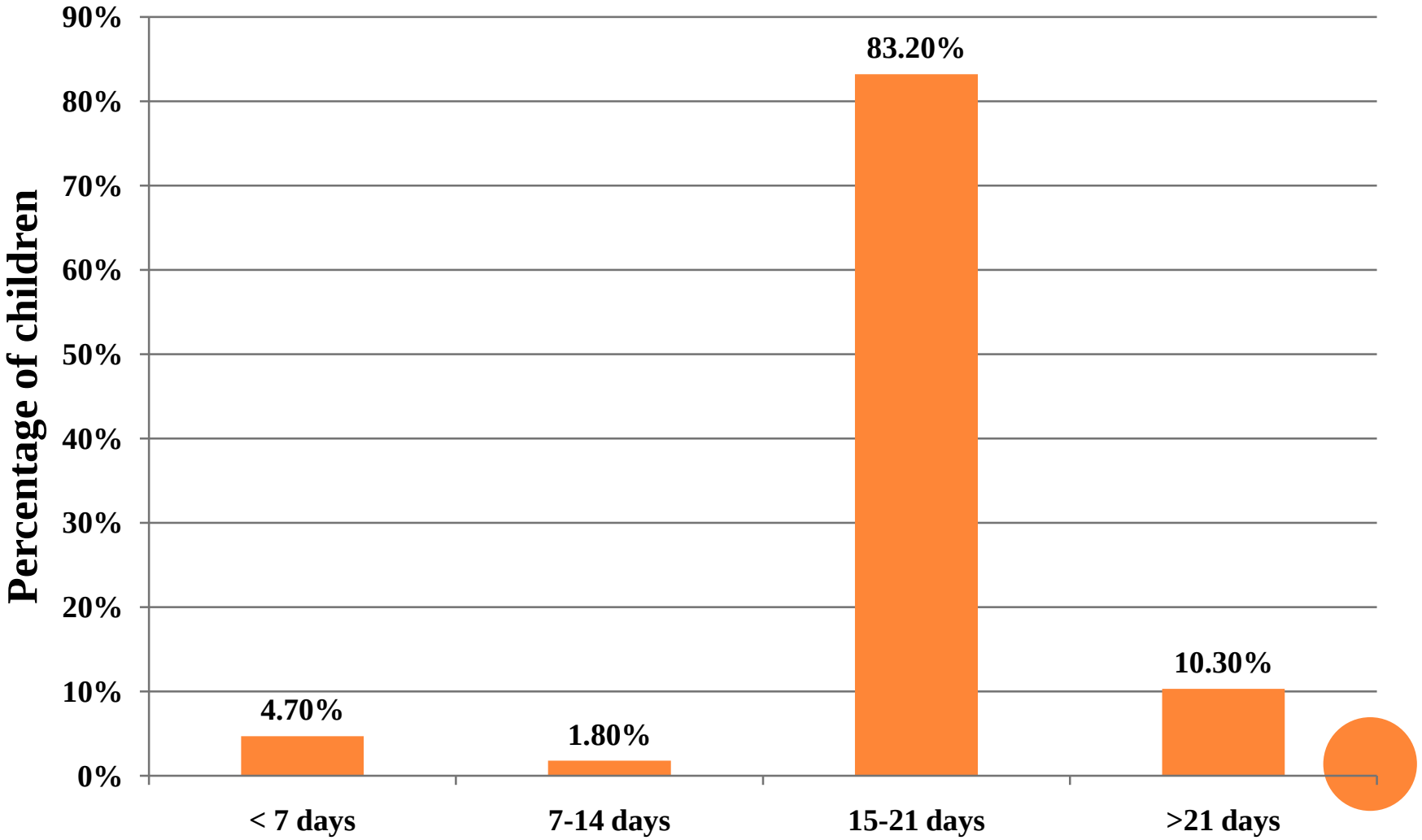
- There was no death reported in any of the facility

- 20% of the children were defaulters(did not stay at centers for the required duration or did not come for follow-up)

PERCENTAGE OF CHILDREN WITH CHANGES IN WEIGHT AT TIME OF DISCHARGE (N=100)



DURATION OF STAY AT THE NRC/CMTCS(N=100)



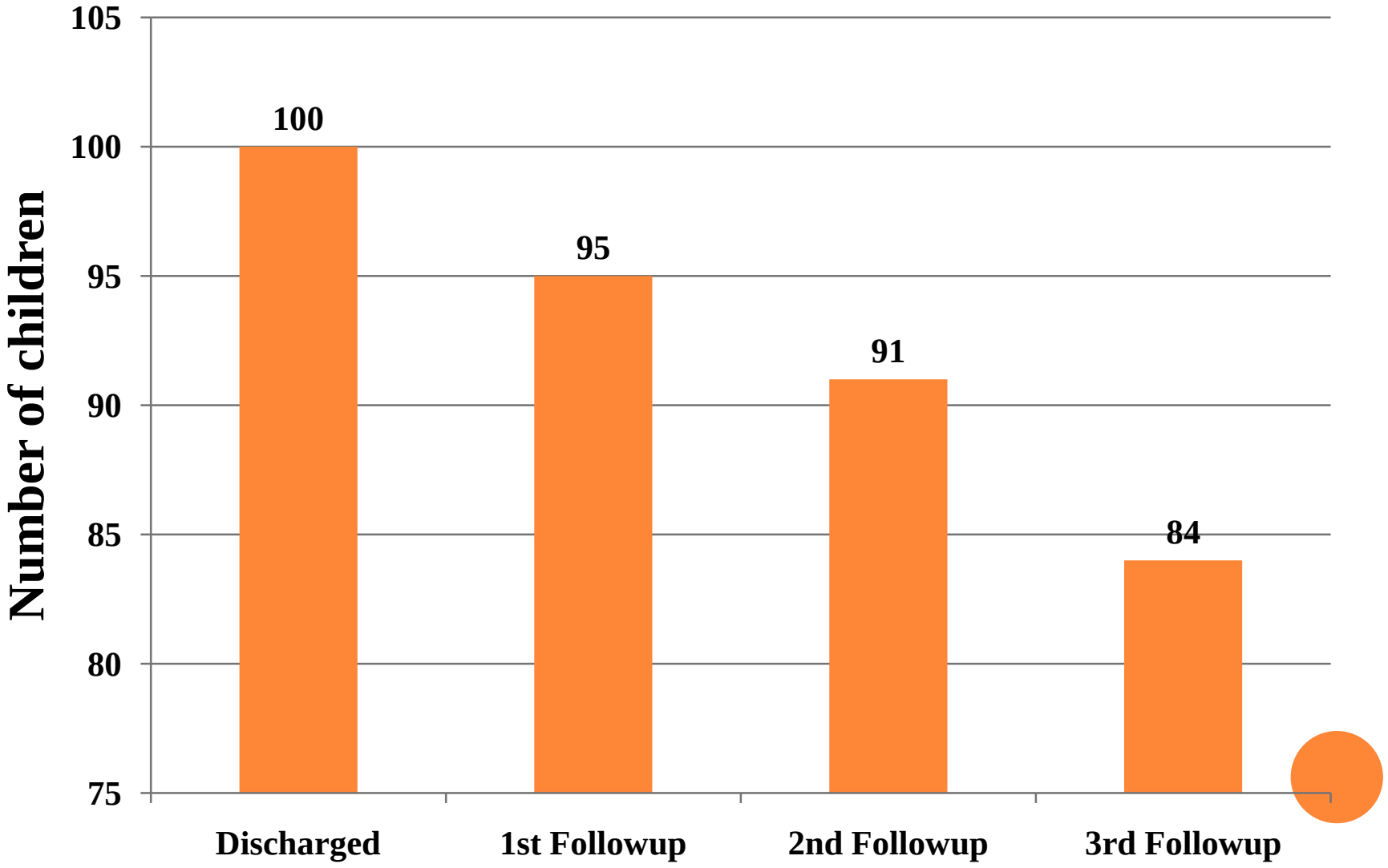
Analysis of follow-up data

- Children discharged from NRC/CMTCs have to come for three follow-up visits to get their health check-up done and weight recorded

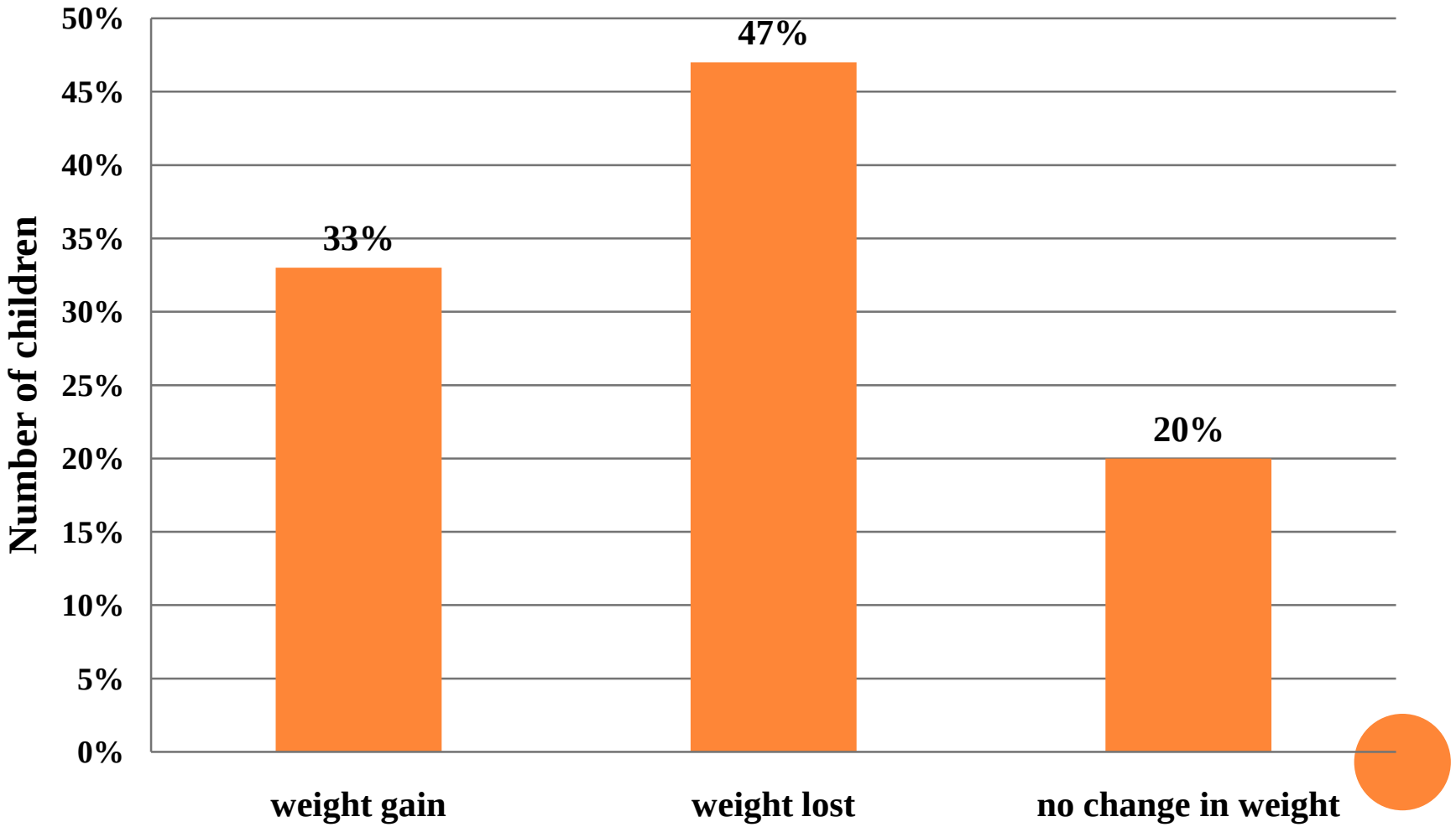
- As per the standard guidelines, schedule of the follow up visits is as follows.

  First visit – 15 days from the discharge
  Second visit – 15 days from the first visit
  Third visit – 30 days from the second visit

Number of children coming for follow-up visits (n=100)



Percentage of children with changes in weight at third follow-up (n=68)



CONCLUSION

- The facilities have adequate infrastructure, equipment and knowledgeable staff and are effective in improving the condition of admitted children as shown by high survival rates and high recovery rates.

- Children were typically admitted for 21 days and discharged (on the 21st day) when no signs of illness was present.

- There is a 16% defaulter rate in follow up visits and weight gain achieved are not sustained following discharge.

  This may be due to dietary practices followed in tribal area.

- Nutrition counseling given to parents should be improved to maintain the weight gain achieved and these facilities should be better linked with community-level models for follow-up.

BIBLIOGRAPHY

- Black RE, Allen LH, Bhutta ZA, Caulfield LE, de Onis M, Ezzati M, Mathers C, Rivera J. *Maternal and Child Undernutrition Study Group. Maternal and child undernutrition: global and regional exposures and health consequences. The Lancet 2008; 371:243-260.*
- World Bank Report“ Source: The World Bank (2009). "World Bank Report on Malnutrition in India)
- Bhutta ZA, Ahmed T, Black RE, Cousens S, Dewey K, Giugliani E, Haider BA, Kirkwood B, Morris SS, Sachdev HPS, Shekar M. *What works? Interventions for maternal and child undernutrition*

Thank you