Facility Based Management of Child Malnutrition- Lesson Learnt from a North Gujarat Study

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Abstract:

Introduction: Malnutrition is a key health problem in India and Gujarat. Mission Balam Sukham was launched to overcome malnutrition. Facility-based management of malnutrition is one of two components of this program. **Objectives:** 1. To evaluate Strengths, Weaknesses, Opportunities and Challenges (or Threats) of Child Malnutrition Treatment Centre (CMTC) and Nutrition Rehabilitation Centre (NRC). 2. To project into areas that needs improvement to overcome the centres' weaknesses and challenges. **Method:** In-depth interviews were taken for health workers and beneficiaries of NRC and CMTC of Patan district till saturation of responses. Transcripts were made and themes were analysed based on the SWOC matrix. **Results:** Major issues identified by the study were absence of continuous financial support to operationalize CMTCs selected under Gatishil Gujarat program, Absence of Paediatrician, lack of awareness regarding child nutrition over night stay at centre and quality of training. **Conclusion:** Some internal weaknesses and strengths were acknowledged. Only facility-based management of SAM children did not make a difference in community. Training of ASHA and Anganwadi worker about nutritional counselling, screening and monitoring of SAM child is needed to strengthen the community-based management of SAM children.

Keywords: Child Malnutrition Treatment Centre, Facility based management, Malnutrition, Nutrition Rehabilitation Centre

Introduction:

Malnutrition among under-five children is one of the key public health problems in India which is reflected by the fact that India is the topmost in the world with respect to the prevalence of under-weight children and the prevalence is nearly double that of Sub-Saharan Africa. It is also pragmatic that the malnutrition problem in India is a localized phenomenon that is, a relatively meager number of states, districts, and villages account for a significant share of the malnutrition burden; only five states and 50% of villages are responsible for about 80% of the malnutrition burden.[1] Prevalence of undernutrition among under-five children according to the National Family Health Survey 4 (NFHS-4) in India shows that 35.7% under-five children were underweight, 38.4% were stunted and 21% were wasted.[2] According to the National Family Health Survey 5 (NFHS-5), the prevalence of undernutrition among under-five children was 39.7% underweight, 39% stunted and 25.1% wasted in Gujarat.[3] Paucity of suitable food, lack of purchasing power of the family coupled with traditional beliefs and taboos often lead to an unsatisfactory balanced diet, resulting in malnutrition.[4]

Quick Response Code	Access this article online	How to cite this article :
	Website : www.healthlinejournal.org	Solanki N, Sharma P, Ninama R. Facility Based Management of Child Malnutrition- Lesson Learnt From a North Gujarat Study. Healthline. 2021; 12(4):66-73.
	DOI : 10.51957/Healthline_277_2021	

To combat the problem of malnutrition, some states initiated high-level nutrition missions- such as Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra and Uttar Pradesh.[5] In 2012, Gujarat State Nutrition Mission (GSNM) was launched by the Government of Gujarat,[6] wherein a network of rehabilitation centers across the state was recognized to provide therapeutic treatment to severely wasted children. Despite this, recent data suggest that Gujarat state still depicts one of the highest (9.5%) incidences of severe wasting.[7]

In Gujarat, Mission Balam Sukham was started to improve the nutritional status of the children.[8] There are two approaches for managing children under this Mission; Community Based management and Facility Based management. Gujarat has adopted 3 tier approach for management of malnutrition. Children having severe acute malnutrition (SAM) are provided 14 days of nutritional treatment therapy in groups of 10 children at CMTC. The success of this initiative and improvement of nutritional status largely depend upon the adequate functioning of the CMTC, including infrastructure, staff, fund allocation etc.

Objectives:

1. To evaluate Strengths, Weaknesses, Opportunities and Challenges (or Threats) of Child Malnutrition Treatment Centre (CMTC) and Nutrition Rehabilitation Centre (NRC).
2. To identify areas which need improvement so as to overcome weaknesses and challenges of the centre.

Method:

Qualitative Research study was conducted among stakeholders and beneficiaries from selected NRC and CMTC of Patan District of Gujarat. In-depth interview was coundcted Telephonically as well as one to one when it was feasible. Purposive sampling method was used to conduct interview till the saturation of responses is reached. Based on the operational guideline of CMTC, detailed Interview guides were prepared for Health care worker (staff nurses or Medical officers), Nutritionist and Mothers of the Beneficiaries to assess the functioning of the centres.

Six CMTCs and one NRC of Patan district were selected for the SWOC (Strengths, Weaknesses, Opportunities and Challenges) analysis of the centre; but the saturation of responses was reached after evaluating four CMTCs, so finally data was analysed from four CMTCs and one NRC. Ethical Approval was taken from Institutional Ethical Committee.

A full-day visit was conducted to understand the functioning of the selected CMTCs and NRC. All stakeholders of the centre, including the Health care providers, nutritionist and mothers of the beneficiaries etc. were personally interviewed to collect the desired information. After the field visit, all information thus collected was transcribed and translated using suitable themes and codes and further analysed to prepare a SWOC matrix.

Results:

SWOC Analysis

The study was carried out to assess the strengths, weaknesses, opportunities and challenges of government NRC and CMTC functional in Patan District. Total of 19 participants were interviewed by using a qualitative interview guide. Ten healthcare providers and nine mothers of admitted SAM children were interviewed.

STRENGTHS

Policy and Guidelines : Most of the centers follow CMTC and NRC guidelines of the government of Gujarat for admission and discharge of SAM children. Almost all centers had received updated information of any change in guideline. All stakeholders had good knowledge regarding the programmatic guidelines (criteria for admission, discharge and follow-up).

Table 1: Area of interest in SWOC matrix

Strength (S)	Weakness (W)	Opportunity (O)	Challenges (C)
• Staff Worked according to guideline. • Knowledgeable and Motivation staff. • Physical Infrastructure. • Human Resources (HR) in Place • Funds management • Mobility Support for beneficiary	• Training. • Availability of specialist in all CMTC centre • Referral to higher centres • Availability of Vegetables and Fruits • Supportive Supervision visit not done.	• Mobilization of other fund resources • F-IMNCI training for Staff Nurses at CMCT/NRC	• Ignorant behavior of mother about malnutrition status of their children. • Beneficiary refuses to stay in night at center. • Reluctant for admission in center for treatment. • Inadequate counselling by Acredited Social Health Activist (ASHA) Anganwadi Worker (AWW)

Table 2: List of Participants of Patan district

Sr. No	Center	Interviews	Nutritionist	Health care worker (Staff Nurse or Medical officer)	Beneficiary
1	NRC- Dharpur	4	1	1	2
2	CMTC- Chanasma	4	1	1	2
3	CMTC- Sariyad	4	1	1	2
4	CMTC- Harij	4	1	1	2
5	CMTC- Shankheswar	3	1	1	1
Total		19	5	5	9

Table 3: Characteristics of the participants

Respondents	Demographic variables	Category	Frequency
Healthcare worker	Age (in years)	Less than 30	7
		More than 30	3
	Experience (in years)	Less than 2	6
		More than 2	4
Mothers of Beneficiaries	Age (in years)	Less than 30	5
		More than 30	4

Table 4: Perceived barrier and possible solution as suggested by respondents

Respondents	Perceived barrier	Enablers
Health Care worker	Issues of funds in Gatishil Gujarat run CMTC	Common fund allocation to all CMCT
	Ignorant behavior of mother about child condition	Counseling by ASHA and ANM at Mamta diwas
	Overnight stay at a facility	Food packets
	Lower education and socioeconomic status of a mother	Received incentive
	Inadequate monitoring	Plan session for supportive supervision
	None availability of a pediatrician	F-IMNCI Training plan for MO and Staff nurses/ PPP model also adopted to enrollment of pediatrician
	Referral issues	Collaborative approach for the development of strong reference network
Beneficiary	Night stay issues	Demand generation regarding the services
	Unawareness of health importance	Positive counselling at time of Mamtadiwas
	14 days' stay is not possible	IEC activity at Community level for community Engagement

SWOC Matrix analysis

SWOC	**Strength (S)** • Worked according to guideline. • Knowledgeable and Motivated staff. • Good Infrastructure. • All HR in Place • Funds management good in CMCT and NRC run by NHM • Mobility Support for beneficiary was good.	**Weakness (W)** • Refresher Training should be organized. • Non availability of pediatrician in ALL CMCTC center • Referral issues from PHC. • Lack of Vegetables and Fruits serve in NRC • Supportive Supervision visit not done.
Opportunity (O) • RKS fund utilization • Positive experience sharing by beneficiaries to others. • Supportive supervision. • F-IMNCI training for Staff Nurses at CMCT/NRC • All CMTC run under common fund NHM	**SO Strategies** • Some untied funds should be put in budgets to purchase the fruits and vegetables as on daily based bills was not generated. • Policy and guidelines should be reframed to use funds from NHM RKS funds are utilized for improving the services.	**WO Strategies** • Planning of Positive experience sharing by beneficiaries at MAMTA DIWAS. • Training of staff should be there in regular intervals. • Pediatrician enrolled in PPP model. • Staff nurse and MO trained in F-IMNCI • Supportive supervision visits are to bemade compulsory.

Challenges (C)	SC Strategies	WC Strategies
• Ignorant behavior of mothers about malnutrition status of their children. • Beneficiary refuses to stay atnight at the center. • Reluctant for admission in center for treatment. • Inadequate counseling by ASHA/AWW	• Nutrition education program run at village level. • Screening of children for malnutrition at the Village level. • Training of ASHS/AWW for nutrition counseling.	• Night stay refusal issues overcome by prescribing diet plan to be followed at home according to guidelines for enrolled children. • In case of complications when a pediatrician is needed, a child can be referred with transport facility to NRC.

Human resource: Most of the centers had all staff as per the guideline. No vacancy has occurred since the last two years in all centers.

Finance: Fund allocation was observed differently in CMTC. Some CMTCs and NRCs received funds from NHM, whereas some CMTCs received funds from Gatishil Gujarat Scheme.

Infrastructure: All CMTC and NRC had good infrastructure with adequate floor space for ten beds, kitchen, counseling room, nutritionist room, and bathroom and storeroom. All centers were keeping good cleanliness in wards, kitchen and bathrooms. The quality of food given was good.

"Rooms, toilets and washbasin is cleaned" Beneficiary, 26 years, Female)

Positive feedback regarding stay in almost all CMTC.

"Toilets and kitchen were maintained good cleaning. They were mopped twice daily and also clean toilet two times a day"(Beneficiary, 24 years, Female)

"24 hours drinking water facilities were available at center"(Beneficiary, 29 years, Female)

Support from other Hospital staff

Almost all centers had get good support from other staff of the hospital.

"Hospital clerk helped us for account and also transfer of money to different beneficiary account, other hospital staff also help in maintain the center". (Health care worker 32 years, Female)

Mobility support : All centers had mobility support in KHILKHILAHAT VAN for to and fro movement between beneficiary's home and the health center. Average 8 to 10 gm/kg/day weight gained was observed in all centers. NRC was awarded for the maximum number of SAM and MAM admission in 2018.

WEAKNESSES

Bottlenecks of Budget : All CMTC run under the Banner of Gatishil were faced financial crisis from time to time. Staff did not get timely salary and funds for food at the Centers.

"Sometimes, we received grants 4 to 5 months back. It's very difficult to sustain the center in this situation. We did not get salary. It also broke down our enthusiasm towards our work'' (Health Care Worker (HCW) 26 years, Female)

"Sometimes, we also put our money for purchasing food for children" (HCW, 35 years, Female)

"We did not purchase fresh vegetables, and fruits as the local vendor did not provide bills for the same. So child did not get fruits, and fresh vegetables for eat"". (Beneficiary, 26 years, Female)

Capacity building: Most healthcare providers took training two to three years back and there was no refresher training.

"Due to COVID-19 there was no training organized from last two years and so we did not take it" "(HCW 28 year, Female). Lack of training of grass root level workers was observed for counseling skills.

Non-availability of a pediatrician at CMTC: No pediatrician was available at any CMTCs. In NRC, the pediatrician was only visiting once a day.

"Pediatrician does not visit the NRC for management of child, so NRC staff has to take child to OPD or ward for consultation of pediatrician. We also sit in pediatric Out Patient Department or screening of SAM child"(HCW of NRC, 28 years, Female)

Almost all CMTC refer the child with complications to NRC due to the non-availability of pediatrician. "Sometimes we admit in the child, but they did not respond the treatment and did not gain proper weight, so we refer them to NRC, which further lead to delay in treatment"(HCW of NRC, 28 years, Female)

Proper referral from PHC and other centers: Some Primary health centers were not transferring the malnourished children to CMTC and NRC. Instead, only one or two children were referred to CMTC and NRC. So facility based screening and referral was not good. Only one or two child were referred from PHC to CMTC/NRC per month.

Lack of protective foods (vegetables and fruits) at NRC : The main reason was that neither bills nor vouchers for purchasing these foods were allowed for disbursement of funds leading to the non-availability of fresh fruits and vegetables for the beneficiaries.

Supportive Supervision: None of the supervisory health officers visited NRC/ CMTCs for supportive supervision for two years due to the COVID-19 pandemic.

OPPORTUNITIES

Rogi Kalyan Samiti(RKS) funds: Untied fund of Rogikalyan Samiti might be utilized where there is a lack of funds especially the CMTC under the Gatishil Gujarat. All CMTCs may have a shared fund pool from NHM.

Capacity building: Training of Aganwadi worker, ASHA and ANM for counseling regarding the continuous stay at NRC/ CMTC for 24x7. Positive experience shared by mother who stay at CMTC and NRC to other beneficiaries done in Mamta diwas.

Monitoring and supervision

Regular supportive supervision by concerned health officers for identification and solution of different issues of center.

F-IMNCI training: None of the staff was trained in facility based management of neonatal and childhood illness. In-charge Medical officers and staff nurses should be trained in F-IMNCI.

CHALLENGES

Not reaching the facilities: Some of the beneficiaries were not willing to stay overnight for a longer period of 14 days. ASHA and AWW do not have adequate counseling and communication skills.

Beneficiaries were not wanted to be admitted in NRC because of fear of corona infection as NRC is situated near theCOVID-19 designated hospital.

Night stay at CMTC and NRC:

None of the beneficiaries were staying in night due reasons like

1. Taking care of other children at home
2. Refusal by in-laws and husbands
3. Household works and works in fields and in farms

"We have cattle at home and also household work, if we stay here in night all work was suffered a lot. My husband was also alone at home. No one was

there for preparing the food. So we cannot stay at night"(Beneficiary 9, 29 years, Female)

"I have two more child at home and in laws also. I have to take care of them too. I have to prepare food at home. So, not possible to stay at home"(Beneficiary 8, 34 years, Female)

Absent of counseling by grassroot level workers : Mothers were not counseled on correct cooking practices, low-cost recipes, Energy Protein Dense-EPD diet, hand hygiene and child care at home.

Ignorance of mother about the Malnutrition status of their child : Some mothers were not aware about malnutrition status of their child and health consequence. Such mothers were visiting to CMTC/NRC only for foods and incentives. At some center mothers by mothers who were taught to prepare the low cost food by nutritionist were not able to recall the process at the time of interview. "Yes, the nutritionist was teaching us how to prepare food, but I did not recall it now. I also 'don't understand some part of it (Beneficiary, 26 years, Female)

Discussion:

Malnutrition was significant health issue in India. To overcome this government had operationalized CMTC and NRC for the treatment of malnutrition. The present study was planned toevaluate Strengths, Weaknesses, Opportunities and Challenges (or Threats) of the Child Malnutrition Treatment Centre (CMTC) and Nutrition Rehabilitation Centre (NRC). All centers had good infrastructures, knowledgeable human resources, and good support from other departments. Though there was good infrastructure and cleanliness, beneficiaries refused to stay in the night because of family issues and other household jobs. In some centre they missed the evening feeds. A similar finding was observed in Patel MP et al. study of south Gujarat. Another major issue was the non-availability of a paediatrician at CMTC. An integrated approach for management of SAM child at centre is very important in such set up. Staff nurse and Medical officer must be trained for F-IMNCI to better manage SAM child and its complication.

Ignorant behaviour of mother about nutritional status of children and this was also observed in Tejana G et al study in Madhya Pradesh.[14] Mothers are stayed at the centers so that they can be taught and educate for effective care of the children and the preparation of the low cost diets from locally available material. Surprisingly, this fact was ignored at the centers and much attention was paid to the improvement in nutritional status of the children, which is essentially considered to be the criteria of the program's success.

For sustained benefits and prevent relapse, implementation of CMAM programme was very crucial as single time management of SAM child at facility level may not be a bearable strategy. In our study, we found all beneficiaries were from low socio-economical classes. For them, if services avail at their doorstep was very important, and most literature on the subject implies that the long-term effectiveness of the NRC is affected by limiting factors at home and in the center itself.[12,13] Regular follow-up visits of all discharged children done by the ASHA and AWW.

Conclusion:

Internal weaknesses and strengths were acknowledged by the study. Only facility-based management of SAM children did not make a difference in community. Training of ASHA and Anganwadi worker about nutritional counselling, screening and monitoring of SAM child is needed to strengthen the community-based management of SAM children.

Declaration:

Funding: State Health Systems Resource Center, Gujarat

Conflict of Interest: Nil

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