

(CASE REPORT)



Severe Acute Malnutrition (SAM) free villages: Case study

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Abstract

Introduction: Malnutrition is an underlying cause to 45% of all under-five childhood deaths. Inadequate household access to food, infections, and environment have associated effect. Exclusive breastfeeding is associated with 45% reduction in neonatal mortality. Essential Nutrition Action (ENA) framework explains nutrition through life cycle approach.

Methodology: Data were collected from monthly malnutrition screening reports in 2016. Selection of health centers and health posts was purposive. Health workers and health extension workers were trained on key Adolescent, Infant, Young Child (AMIYCN) feeding practices, messages, negotiation and interpersonal communication skills to help caregivers optimally feed their children.

Results: Prevalence of SAM was 2.04% of under-five population, Angacha woreda, 1.32%, Shino Funamora cluster 0.63%. In Gede Genet and Adacho villages it was 0.

Discussion: Prevalence of SAM in Kembata Tembaro zone 2.04% is lower than national 3%, Southern Nations and Nationalities and Peoples (SNNP) region 3.1%, Angacha district still lower 1.32%, and Shino Funamora cluster 0.63%, Gede Genet and Adanco villages 0, compared to 31 and 22 expected respectively. The situation in Bucha cluster (1 HC with 5 HPs), no SAM cases for the last four months.

Conclusion: SAM can be prevented by appropriate feeding practice. Counseling mothers on child feeding is key to prevent SAM.

Keywords: Severe acute malnutrition; Essential nutrition action; Exclusive breast feeding; Complementary feeding

1 Introduction

Malnutrition is the underlying cause to 45% of all under-five childhood deaths (3.1 million deaths), 11.6% of all deaths, 804,000 attributed to suboptimal breastfeeding, and maternal malnutrition contributes to 800,000 neonatal deaths annually (1, 3). Inadequate household access to food, infectious disease, food security, maternal, child care and environment have associated effect (2). Exclusive breast feeding initiated within 24 hours of birth is associated with 44-45% reduction in all causes of infection related neonatal mortality. Complementary feeding practices for infants refers to the timely introduction of nutritionally rich foods in addition to breastfeeding at six months of age, it is associated with significant gains in height and weight of children (3). Exclusive breastfeeding for the first six months, appropriate complementary feeding from six months, adequate vitamin A, and zinc could potentially avert up to 13%, 6%, and 4% of under five deaths respectively (4). The ENA (Essential Nutrition Action) framework explains nutrition through a life

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cycle approach addressing women's nutrition during pregnancy and lactation, optimal infant and young child feeding, nutritional care for sick children and control of anemia, iodine and vitamin A deficiencies (5). Currently AMIYCN (Adolescent Maternal Infant Young Child Nutrition) has been adopted to include adolescent and women's nutrition.

The Ethiopian Demographic Health Survey (EDHS) 2016 to 2019 showed decrease in national prevalence of stunting among children from 38% to 37%, severely stunted 18% to 12%, wasted 10 to 7%, and severely wasted 3% to 1% (6). Children who suffered undernutrition have impaired cognitive development, suboptimal productivity as adult and reduced economic growth for the nation (7).

2 Methodology

The information was compiled during a field visit (October 2016) to Angacha district health office, two health centers (HC) and two health posts (HP), whose staff, and mothers of infants were also interviewed about the implementation of the program. The selection of HCs and HP was purposive (best performing). Data were collected from monthly malnutrition screening reports. SAM is defined as MUAC (Mid Upper Arm Circumference) <11 cm or bilateral pitting edema, in six months to five years of age.

2.1 ANI project (Accelerated Nutrition Improvement)

The project is implemented in 10 selected districts of Amhara, Oromia, and Southern Nations, Nationalities and Peoples (SNNP) regions reaching an estimated population of 1.5 million, targeted 61 health centers and 254 health posts. The ANI project was funded by the Government of Canada, through WHO and implemented by John Snow, Inc. (JSI/IFHP) in collaboration with Federal Ministry of Health FMOH. The project supported implementation of the revised National Nutrition Program (NNP) to reduce stunting among children under five years of age by strengthening and scaling up existing efforts. This includes building the capacity of health workers and Health Extension Workers (HEWs) to improve nutrition practices among families and reducing iron-deficiency anemia among adolescent school girls.

Angacha is one of the districts of Kembata Tembaro zone, it is also one of ANI districts, 25 km far from Durame (zonal capital), with a population of 109,804, has five health centers and 20 health posts.

IFHP supported training of 44 HWs (>5 /HC) and 47 HEWs on AMIYCN, 30 HWs (>3/HC) and 41 HEWs (all) on SAM management. They were trained on key Adolescent, Maternal, Infant and young child feeding practices/ messages, negotiation, and interpersonal communication skills to help mothers/caregivers optimally feed their Adolescent girls, infants and young children and to care for their own nutritional needs. The training approach promoted the principles of behavioral change communication of small do-able actions. Follow up and review meetings were conducted 100%. One of the activities was complementary feeding demonstration backyard gardening at HC, HP, community level by Health Development Army (HDA), and one to five leaders.

3 Results

Table 1 Kembata Tembaro zone nutrition screening result of 2016

Zone,woreda,cluster,kebele	Population	*# of SAM cases identified		**MUAC 11-12 cm	***PLW with MUAC <23 cm	Comment
		MUAC <11 cm	edema			
Kembata Tembaro Zone	878,032	2428	315	39,665	42,747	
Angacha woreda	109,804	195	14	1496	1829	
Shino Funa Mora cluster	30,395	26	4	248	297	(HC+5 HPs)
Gede Genet HP (kebele)	6,790	0	0	25	14	
Adancho HP (kebele)	4,618	0	0	114	273	

*SAM -Severe Acute Malnutrition; **MUAC Mid Upper Arm Circumference, ***PLW, Pregnant Lactating Women

Child Health Days (CHD) is conducted every month, during which screening of under five children and pregnant and lactating women every month with coverage of more than 90% in each kebele. Supplementation of vitamin A and deworming is also implemented for children. Those children with SAM are referred to HC or HP for treatment, moderate ones and pregnant and lactating are referred for supplementary feeding or counseling. Table 1 shows summary of monthly screening results of one year. Under Shino Funamora HC there were five villages, 26 cases of severe wasting, and four edema were identified, most were treated in OTP (Outpatient Therapeutic Program), and only one was treated in the stabilization center (SC) found in HC. Gele Genet HP is found under this HC, and there was no case of SAM for the previous one year. The number of moderate cases and pregnant and lactating in Gele Genet kebele is only 25 and 14 respectively. Bucha HC is 5km. from Angacha town, has five Kebeles under it, they had few cases of SAM before four months, but no case was reported after that (not shown on the table). Adancho HP is under this HC, and did not identify any case of SAM for the last one year.

4 Discussion

The district officers, health workers in health centers and health extension workers said ANI program has shown them that prevention of malnutrition is better than cure. They worked hard on nutrition counseling and complementary feeding demonstrations using all opportunities, which has helped to decrease cases of severe malnutrition.

Prevalence of SAM in Kembata Tembaro zone is 2.04%, lower than expected (national 3% of under-five population, and SNNP 3.1%) (6). Angacha woreda is still lower, 1.32%, and Shino Funa Mora cluster 0.63%. In Gede Genet and Adancho villages the expected SAM cases were 31 and 22, respectively, 6 and 4 cases treated in 2015 respectively compared to zero in both villages in 2016. They were sometimes called SAM free kebeles. This is a very good example for other villages and districts as a whole. The situation in the Bucha cluster (no cases of SAM in the last four months) is also encouraging. Counseling of mothers was not only on nutrition, but also on family planning and immunization.



Figure 1 Seven months old infant, the fourth child for family, delivered at HC, exclusively breast fed up to 6 months. Mother participated in complementary feeding demonstration after which she started him on additional food at six months age. She was advised about vaccination and family planning by HEW. He is vaccinated for his age. He had no any illness except common cold. Mother is using family planning method Intrauterine Contraceptive Device (IUCD)



Figure 2 Nine months old infant, fourth child for his family, delivered at HC, and exclusively breastfed for six months. Mother participated complementary feeding demonstration, and started him at six months age. She was also counseled on vaccination and family planning. He is vaccinated for his age. Mother is using family planning method (IUCD)



Figure 3 Complementary food demonstration by Health Development Army (HDA)

5 Conclusion

- Severe acute malnutrition can be prevented by appropriate feeding practice
- Counseling mothers on exclusive breastfeeding demonstration of complementary feeding demonstration are key to prevention of SAM

Limitation

Health facilities visited were selected purposively (best performing), and may not be representative.

Compliance with ethical standards

Acknowledgments

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Disclosure of conflict of interest

Authors declare that there is no conflict of interest.

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