

Original Article

Perception and experience on SAM among 6-59 months children in Ari zone, S/Ethiopia

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ABSTRACT

Objectives: The objective of this study was to explore caregivers' perceptions of and experiences with SAM among children aged 6–59 months in the Ari Zone, South Ethiopia, 2023.

Material and Methods: From June to August 2023, an exploratory-descriptive qualitative study was carried out in the Ari Zone of South Ethiopia. In-depth interviews and focused group discussions were utilized in the study to describe the perspectives and experiences of the caregivers. The application of credibility, transferability, dependability, conformability, and authenticity preserved the scientific rigor and reliability. NVivo version 12 Pro software was utilized to conduct the inductive thematic analyses.

Results: The ways in which caregivers manage SAM and its shared challenges were described using four predominant themes, namely, community-related challenges, hygiene and sanitation, food insecurity, and health system-related challenges.

Conclusion: As a result, malnutrition is not well understood by families of children, and traditional practices, especially *kella*, have predominantly been performed in study areas with paradoxical diagnoses and identical symptoms of SAM. Economic incapability influences tackling SAM in children. The health system has limitations in terms of supplies, service delivery, and professional ethics. These situations need to be improved by working on community awareness and empowerment, strengthening the system and further investigating traditional practices.

Keywords: Caregivers' perceptions of and experiences with severe acute malnutrition, Children, Ari zone, Ethiopia

INTRODUCTION

Malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients.^[1] The presence of nutritional edema, severe visual wasting, or a weight-to-height ratio that is extremely low [below -3 z scores of the median World Health Organization (WHO) growth criteria] are all indicators of severe acute malnutrition (SAM). SAM is also indicated by bilateral pitting edema and an arm circumference smaller than 115 mm in children aged 6–59 months.^[2] Each country in the world is exposed to one or more forms of malnutrition, which makes it challenging to combat. Infants, children, women, and adolescents are vulnerable to malnutrition.^[3] Malnutrition is strongly related to the economic status of people due to the negative effect of poverty on the risk of malnutrition. People are unable to afford health service costs, have poor productivity, and have sluggish economic growth, which can perpetuate a cycle of poverty and poor health.^[3-5]

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Malnutrition can be classified into two categories: undernutrition and overnutrition- and diet-related non-communicable diseases. Undernutrition manifests in four broad subforms: Wasting or acute malnutrition (low weight-for-height), stunting (low height-for-age), underweight (low weight-for-age), and micronutrient deficiencies.^[1,6] Approximately 45% of deaths in low- and middle-income countries among children under 5 years of age are linked to undernutrition.^[3]

Acute malnutrition is a form of undernutrition due to a decrease in food consumption and/or illness resulting in bilateral pitting edema and/or sudden weight loss.^[7] Primary malnutrition in children is caused by inadequate dietary intake and/or disease caused by food insecurity, inadequate care for women and children, insufficient health services, and unsafe environmental sanitation.^[8,9] Acute malnutrition can be classified as moderate acute malnutrition, SAM, or global acute malnutrition.^[10]

SAM is believed not only to be the result of a lack of food but also to be a health and illness issue.^[11] Community-based management of acute malnutrition (CMAM) refers to CMAM in either the stabilization center (SC) for medically complicated malnutrition cases or the outpatient therapeutic program (OTP) for medically non-complicated cases.^[7] Children with SAM who also have medical complications (such as low appetite, any grade of bilateral pitting edema, recent weight loss, ineffective feeding, and other health problems) are kept in the SC to stabilize their health.^[2] On the other hand, OTP is a type of SAM management service offered close to the community at primary health-care facilities, where uncomplicated severely malnourished children receive varying amounts of ready-to-use therapeutic food (RUTF) as Plumpy'Nut sachets in accordance with their body weight.^[12] Nearly half of child deaths include malnutrition as a contributing factor, especially in poor socioeconomic areas of developing nations.^[13] 52 million children under the age of five globally are at risk of acute malnutrition; more than two-thirds of these children 36 million live in Asia.^[14] Ethiopia is making progress toward reducing the prevalence of malnutrition, but not quickly enough to meet the worldwide objective set by the World Health Organization (WHO) to reduce malnutrition by 40% by 2025.^[13] The sustainable development goals (SDG) include nutrition as a key component, with Target 2.2 calling for the "End all forms of malnutrition" by 2030.^[15]

The caregivers had no idea what their children needed to eat, nor did they know what malnutrition looked like. It is vital to ensure that the children's nutritional state does not put them at risk for malnutrition and that the caregivers are knowledgeable about healthy foods.^[16] The illnesses of their children meant different things to different caretakers. A lesser percentage of caregivers noted a diet low in protein,

whereas a few caregivers suggested a physical explanation. Other reports included characteristics of the newborn, further background information, and references to spiritual and religious influences. Thirty percent of caregivers highlighted the difficulties in their marriages, personal connections, and health.^[17] The lack of free feeding programs for malnourished children as well as preconceptions about the causes of malnutrition and the failure to link it to inadequate feeding practices were obstacles to severely malnourished children seeking medical attention. Grandparents played a significant role in mothers' decisions to seek care for malnourished children. To better identify and treat malnourished children, this community must become more aware of the causes, symptoms, and indications of malnutrition.^[18]

SAM cases are not well noticed until its severe stage due to the presentations that having edema which confuses them with stable health and normal physical status.^[19] Childhood malnutrition lacks a local diagnosis and classification with biological taxonomies, therefore it quickly progresses to a severe state that is highly symptomatic and requires treatment. This is mostly dependent on how the parents perceive the problem's root cause.^[20] The majority of the population does not view SAM symptoms as a problem, and most often, care takers consult with elders, religious fathers, and traditional health practitioners according to the ease to access and the community's perception.^[21-23]

Cultural beliefs were still followed by some mothers in terms of perception and practices against the scientific views of SAM indicating a need for understanding and benchmarking further effects of the socio-cultural practices and perceived experiences of the people on the child health.^[24] Caretakers depend on traditional healers because they are ever presenting members of the community at a lower cost than other options. On the other hand, there is a large disparity between the diagnosis and treatment of malnutrition by community indigenous practices and modern medicine by health professionals in the same case.^[11] Nevertheless, the way that caregivers perceive and react to the SAM experience has not been well assessed.

MATERIAL AND METHODS

The study was conducted in the Baka dawla Ari, South Ari, and Woba Ari districts and the Jinka town administration, Ari Zone, South Ethiopia. The districts were selected purposely due to the study's ability to address important participants accordingly. The Ari Zone is located 750 km south of Addis Ababa, the capital city of Ethiopia. According to the former SNNPR Health Bureau's 2015 fiscal year population projection, the Ari Zone encompasses a total of 407,540 people. The Ari zone newly emerged after the establishment of the 12th southern Ethiopian region. The Ari zone has four districts (Baka Dawla Ari, South Ari, Woba Ari, and North Ari) and two town administrations (Jinka and Gelila).

According to information from the former South Omo Zone administration office, the study area has more than 55 health posts, ten health centers, and two hospitals, including 210 health extension workers and 622 health professionals in health centers and hospitals who contributed to the prevention and control of acute malnutrition, which has been increasingly reported in the past 7 years.

All cereals and legumes, pulses, oils, vegetables, fruits, spices, roots, and tubers are produced 2 times a year. Animal rearing and hive making occur in a scattered manner, except for poultry, which is well farmed. The population density of the study area, on average is approximately 72, which is close to the higher peak of the global accepted normal population density.

Ethical consideration

Ethical clearance and approval were obtained from the Ethical Review Board (ERB) of the College of Health

Sciences and Medicine, Wolaita Sodo University. An official letter was written to the South Omo Zone and its districts for permission. A permission letter was obtained from the former South Omo Zone Health Department to conduct the study. A letter of consent outlining the main aim and details about the study was prepared in line with the tool guide. In addition, verbal informed consent was obtained from the study participants before beginning the interview/discussion, and consent was recorded in the audio interview. To ensure confidentiality, the names of the participants were replaced by codes.

RESULTS

Participant characteristics

The study included 27 participants in the in-depth interview (IDI) and eight focused group discussions (FGDs), with 62 participants and a total of 89 participants from the Jinka town administration, Baka Dawla Ari, South Ari, and Woba Ari districts. The participants’ ages varied from 18 to 50 years, with a mean age of 29 years. Among the eight participants, one was in the health extension worker group, one was in the male group, and the rest were in the maternal group [Table 1].

Themes

Four major themes were identified from the participants’ testimony: Community side challenges, hygiene and sanitation, food insecurity, and health system-related challenges [Table 2].

Community-side challenges and health system-related issues were among the most prominent issues in the SAM experience. These themes were not restricted to a specific participant because the perception and experiences of a single participant could belong to more than one theme [Figure 1].

Table 1: Sociodemographic characteristics of 89 research participants.

Variables	Categories	IDI	FGD
Age	15–19	1	5
	20–24	5	16
	25–29	11	24
	30–34	4	11
	35–39	3	5
	40–44	0	1
	45–49	2	0
	50–54	1	0
	Total	27	62
Sex	Male	5	5
	Female	22	57
	Total	27	62
Education status	Illiterate	4	20
	Primary school	5	32
	Secondary school	0	2
	College L-III	4	1
	College L-IV	8	7
	Undergraduate	6	0

IDI: In-depth interview, FGD: Focused group discussion

Table 2: Identified themes and subthemes.

S. No.	Themes	Subthemes
1.	Community side challenges	Awareness and perception Lack of husband support Traditional practices Poor economic status
2.	Hygiene and sanitation	
3.	Food insecurity	
4.	Health system-related challenges	

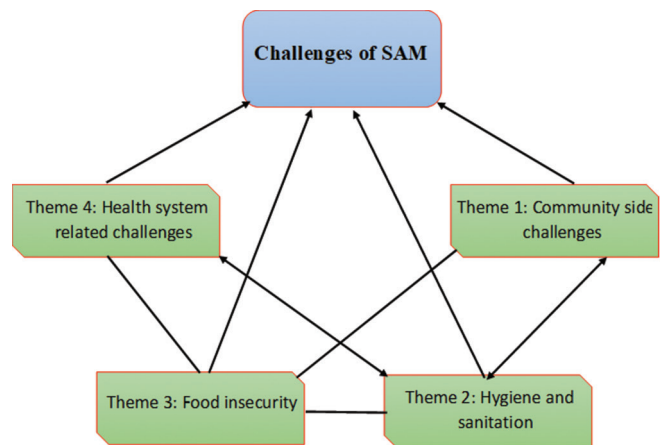


Figure 1: Thematic map of identified interaction themes between the themes and challenges of severe acute malnutrition (SAM).

Theme 1: Community-side challenges

This theme concerns how community understanding, practices, and perceptions influence SAM management. The community has different perspectives that make them practice their indigenous knowledge, regardless of the effects on their livelihood. According to the definition, participants' understanding and perceptions of undernutrition vary.

"..Weight loss, crying and weakness are manifestations of under nutrition ..." FGD 001f, 16/F

"..Inadequate breast feeding, lack of food items, and giving spoiled food may cause such problems." FGD 002c, 32/F

"..When you eat unhealthy and unclean food, the baby will end up with kwashiorkor and helminthes." FGD 002c, 32/F.

The possible cause of undernutrition may be related to BF during pregnancy.

"...basic under nutrition problem is a mother conceived another baby in her womb and not knowing her pregnancy status and feeding her breast for her current child leads to under nutrition." FGD 004a, 20/M

Awareness and perceptions of SAM

There are also thoughts about children's nutritional status and edema.

"...Most of us understand that when the child is poor in his appetite, we just leave him alone because when the child feels hunger, he will ask for food." FGD 004a, 20/M

"...We have been perceiving wellness/fatness when the child becomes swollen; because the situation was unknown before complications." FGD 008 h, 20/F

"...In the part of our community, we did not understand the nutrition problem clearly, and we relate the symptoms with spiritual issues such as Gods' punishment and performing *moxibustion*/burning by stick/and other practices." IDI 007, 31/F

"...It is challenging that the community understands the edema as normal and even fattening (wait gaining), until other complications occur to the child health." IDI 012, 25/F

As the nutrition cycle has a trans-generational effect, participants also stated that the problem begins with mothers' health status.

"...The life of the families presenting with undernutrition is almost complicated, the children have no vaccine history, no pregnancy follow-up, children seem infant but their age is beyond their physical status, stunted." IDI 008, 24/F

Due to the variation in understanding in the community, some mistakes were made in acting negligently to provide

other foods during the stabilization phase of treatment at admission.

"...The family gave meat to the child without permission from the health workers, then immediately the child was lost at the moment in admission. IDI 012, 25/F

The issue of family planning and birth spacing also has a great linkage and effect on children as a cause and challenge of SAM.

"...Yesterday, the mother brought her child for admission, but neither she nor her husband knew about their pregnancy and breastfed the malnourished baby without any supplementary feeding, even after 1 year, due to a lack of awareness. Another woman admitted her child to SC, and she herself was admitted to the delivery ward for labor." IDI 018, 25/F

Awareness affects people even if they are not able to utilize what they have at hand.

"...the economic issue is most of the time related to their awareness; they bring an egg to market, and after selling that, they buy nutritionally low-value food items to their children." IDI 019, 39/F

A mother expressed her views on how an individual is suspected of having a nutritional problem in the presence of food intake.

"...I think it is a new situation; I am surprised to hear when they told me that my baby is undernourished. I managed my baby's feeding adequately by giving him on the early morning at 6:00 AM, on 1:00 AM after we got some food and then at dinner time during night, for a total of three servings a day." IDI 025, 28/F

Most of the informants reported that birth spacing is a cause of inadequate nutritional care for children.

"...The mother has delivered another baby a month back; she was pregnant after his 1st year of age." IDI 017 a, 45/F

"...Recently, my sister became pregnant on her <1 year infant, and she lost her baby; then, she became pregnant on the other baby immediately, and the former became undernourished." IDI 027, 30/F

There are problems in giving adequate care to the children by the families.

"...I know a child who died recently had such a symptom that had excessive body swelling and that was because of undernutrition. They mentioned the reason was because of a lack of adequate care for the child by the mother." FGD 001f, 16/F

"...Mothers leave their children alone and go to their daily activities." FGD 001f, 16/F

“...There are so many social and economic activities, like teamwork in farming, and for such activities, mothers go to the field without taking care of the children at home for a longer time, which leads to child hunger and, finally, they will be undernourished.” FGD 004a, 20/M

On the other hand, some mothers’ behavior also affects their nutritional status.

“...Drunken mothers and fathers do not care for their children and even themselves. They are against the education of health extension workers; they refuse to take their children to vaccination, and they are not feeding their children adequately.” FGD 004a, 20/M

“...She comes after midnight from market, she did not care for my grandchildren, the children were left with me at home, sometimes she passed the night somewhere, and sometimes she came at night from where she went. Then, the children deteriorate, and 1 day she took her baby to a nearby health center; then, the baby was still not cured well.” FGD 005b, 40/F

“...the family most of the time leave the child lonely in our health center and go away for hours or days.” IDI 012, 25/F

Some special conditions also make it challenging to judge the situation, as the informants shared what they lived.

“...The mother gives a single type of food to the caring child who is not older beyond 6 years of age, far from the child, which indicates how much the care is dependent on the children themselves.” IDI 014, 45/M

“...Most of the time the mothers or female grandmothers bring the children to the facility, men are not acting as a responsible body, and we sometimes try to forcefully bring and let them support the mothers in taking care of the children.” IDI 019, 39/F

Lack of husband support

Family stability is very important for raising children’s physical, mental, and social health. In this study, most of the homes and families in the community were not healthy in their marriages. This unstable and peaceful situation does not drive overall child nutrition. The father’s role is not to support and care for the children for many different reasons.

“...the reason for negligence from the mother is due to lack of support from the husband side. Fathers’ carelessness makes the mother mentally tortuous, and she may completely change her mind to behave unexpectedly negligently and to be a drunken person saying am I delivered lonely without the father? And face challenges for the whole family.” FGD 005 g, 27/F

“...She was left her child lonely and got married to other men and left the child to my current husband, and I tried

to feed different supplementary nutrients, and the child recovered from his very emaciated status in nutrition...” FGD 007a, 25/F

“...The root cause is the husband leaving the families lonely for different purposes, and that may hurt the children because the mother can’t afford necessary things or she may lose care to get food by being exposed to different jobs and daily labor...” IDI 001, 28/F

“...A year ago her mother brought the child and after that she gets conflict with her husband and left the child to me.” IDI 002, 50/F

“...Living in your own home and at another body’s home is different; you can’t get what you desire at your needed time. I faced this challenge due to my husbands’ negligence and lack of care for his family.” IDI 003, 38/F

When you are asked about your family history of child admission or follow-up on OTPs, the family history for almost all undernourished children is related to marriage instability.

“...the mothers’ state this baby’s father is dead, or some says he is imprisoned, and the other ones father is not with her, she came to seek any sort of getting chance for daily labor to feed her babies.” IDI 008, 24/F

“...family instability, divorce, and unplanned child birth, lack of birth spacing and moving to different areas seeking of labor.” IDI 009, 26/M

Traditional practices

On the community side, one of the challenges to SAM management, which has its own complex set of perceptions and practices, plays a meaningful role. There are a number of traditional practices, for instance, *Ara*, *Stick Burn* and *Kella*, among which *kella* is predominant. *Kella* is not a nutrition-related problem according to the community perceived definition.

Kella is a disease of children diagnosed by the community characterized by edema, loss of appetite, hair discoloration, and dermatitis, and it is perceived to be treated by traditional healers.

“... Initially, a child presented typical edema, and after traditional management, she completely healed from the edema and associated symptoms, I have seen in my naked eyes.” FGD 003c, 30/F

“...In the presentation, there is edema, redness of the lips, hair discoloration, and a high desire to eat only pepper every minute. Then, the *kella* is suspected by my sister and removed by the traditional healers.” FGD 005 h, 25/F

“...We identify the *kella* manifestation easily in its presentation of *kella* in their chicks, leg and different body parts, skin wrinkle and shade, hair discoloration, and straightening upward, coldness of the body temperature.” FGD 005a, 34/F

The *kellar* incision is made at approximately 8 incision sites, mainly in the chicks, hands, legs and lumbar area.

“...The *kella* to be removed is like frog egg having a watery chain that is whitish; I have seen in my naked eyes when it is removed by their locally prepared small knives and sharp materials in the community traditionally. It can be removed from approximately 8 sites of the body of children, commonly from 1- to 2-year-old children.” FGD 001c, 25/F

Kellar incision is an invasive procedure that involves the use of locally sharpened metal and sometimes a blade brought by the families of the client.

“...The service is provided by the traditional healer having his operation metal and may order the client to bring lemon for the antiseptic procedure and stop bleeding from the procedure site.” FGD 005e, 30/F

“...The surgery will be made by a new blade bringing the family by themselves.” IDI 020, 18/F

The community uses the service widely, and most of the users witness the effectiveness of traditional healing practices for their children.

“...Unless the *kella* removed, no adequate healing will take place on the child. ...The *kella* will heal within a week after incision...” IDI 002, 50/F

“...May God bless the healers that I saw 4–5 children in our village saved by their practice. Yesterday, one child has gone to the service, and the service takes no much time.” FGD 004c, 30/M

“...Normally, in this district, you can’t find unincised children for this nutrition-related edema in general...” IDI 009, 26/M

Women admitted her grandchild frankly asking the hospital nurses to send her to her home to perform the *kella* excision by the healers.

“...I want the hospital workers to understand me to go to the traditional healer and excise the *kella* if they are willing to help me.” IDI 002, 50/F

The only people who oppose the practice are health workers.

“...The health professionals never support traditional *kella* incisions, and I think it is not a legally supported practice...” FGD 005f, 30/F

However, the service cost ranges from 100 to thousands of birrs from the direct fee to the related costs.

“...The service has cost approximately 1000 birr as one person told me. With a total transportation cost of approximately 1500 birr.” FGD 002d, 27/F

Most health professionals state the difference and physiology

of fluid accumulation in malnourished children and its solution as a systemic problem.

“...Edema comes due to loss of potassium through diarrhea and sodium due to vomiting. When there is an imbalance of these electrolytes in the body, water flows out from inside the cell to outside the cell. This can be corrected by replacing the lost electrolyte through the supplementation of adequate sources such as formulated milk...” IDI 004, 28/M

There are variations in the outcomes of the communities themselves.

“...I took him to the traditional healers to remove the *kella* 15 days back, and after excision, there was no progress more yet.” IDI 017 a, 45/F

“...this daughter was well after the *kella* removal and then currently due to lack of adequate feeding she came to admission now.” IDI 020, 18/F

On the prohibition of animal protein sources, health clinicians strongly argue that the basic problem of edematous malnutrition is protein and energy, so it is unlikely that the use of protein sources will be blocked unless medically indicated according to the physiologic conditions in the stabilization phase.

“...prohibiting the protein source is another paradox with the root cause of the edema in the scientific diagnosis; the children have to be administered protein rather than preventing them not from taking protein sources.” IDI 014, 45/M

Ara is the second traditional practice for the administration of herbal medicine to children for nutrition-related presentations. They administer the medication through steaming and drinking.

“...The baby first presented with leg edema, then lost appetite, the swelling covered the whole body, then I took him to the traditional healer and consulted; the healer said that this is “herbal *Ara*,” which can be treated by herbs. He was treated for 4 days but did not heal well.” IDI 016, 25/F

“...Another common practice is “*Ara*,” which is herbal medicine administered in stem bathing and drink for several days. In this case, the child was unable to tolerate diarrhea and vomiting related to the “*Ara*” medication healing process.” IDI 027, 30/F

“...now my baby is free of *kella* through herbal medication, which helped me to save my baby in the “*Messa*” village.” FGD 002 g, 20/F

Ara-containing medication has a feared effect on healing through diarrhea and vomiting; this may hurt children and lead to acute malnutrition.

“...I took him to another healer for *Ara* treatment, and they gave herbal medicine to steam and drink; then, *Ara* was administered, followed by diarrhea and vomiting,

through which the disease was removed. Finally, there was no improvement at all, and we were brought to the hospital for any possible treatment.” IDI 017 a, 45/F

Stick burn is used on the child’s body and has no direct relationship with undernutrition manifestations, but according to their perceived understanding, they try to burn the child as a relief for some forms of discomfort in their health status.

“...this is stick burning (*moxibustion*) on his face and abdomen to solve the problem for possible treatment. I did this by the help of people frequently using such practice and heal their children for the headache and abdominal cramp.” IDI 003, 38/F

“...There are burning using sticks, and burning by hard wire commonly in children’s body.” IDI 019, 39/F

Poor economic status

Poor economic status is a subtheme focused on undernutrition causes and threats to the SAM management process. Economic incapability allows people to be incapable of providing food, unable to take children to health facilities, and unable to maintain the overall life of the family.

“...Primarily the family has economic problems leading his children ill in malnutrition, and when you admit that case you need to think for the family what to support...” FGD 005a, 35/F

“...I have seen a mother brought her child to the Metser Health Center for admission under nutrition but unable to stay due to the lack of money to get food for her, which has led her to take her child to her home and be exposed to lose her child...” FGD 006e, 19/F

“...single egg is more than 10 birr, so it is impossible to keep children healthy. We prepare food items in no different content and in an undiversified manner...” FGD 008a, 28/F

A nurse shared his pain with regard to the family’s experience with the role of the economy against child malnutrition, and he mentioned that people missed their lives due to a lack of economy to manage in health facilities.

“...You may feel sorrow as a human being, due to lack of resources when the families stayed more at home, then last, they bring their loved child to facility and lacking ...resource...they can’t save...take back to their home, what a bad thing...” IDI 004, 28/M

“...The main reason is the community can’t change their feeding and care status from the previous trend due to economic problems and lack of fathers’ focus on the family.” IDI 009, 26/M

“...The feeding system to the children is painful; they give cocked leaf of “*godere*,” rooted tar vegetable,

throughout the day without any other source.” IDI 008, 24/F

“...Some patients may default and go back against admission due to the repeated occasion of the problem on their children and inability to tolerate the situation economically beyond their capacity to handle patience.” IDI 011, 22/M

A female nurse shared a tragedy of a mother-baby interaction at the admission room in SC; the mother refused to feed the formula prepared during the night shift after taking an orientation from the duty nurse.

“...one day on admission, there was a mother aware of feeding her baby every 2 h during the night, but she left her child without feeding through night, and I asked why she didn’t feed her baby; she said that let’s leave the day, it’s ok, but why do I disturb myself from the sleep I got in the presence of nothing in my stomach? She tried to indicate how the pain she passed lacking food for herself and attending her baby without feeding herself.” IDI 018, 25/F

Theme 2: Hygiene and sanitation

This theme represents the environmental conditions that contribute to SAM by directly and indirectly influencing the nutritional status of children. Participants described facilitators and barriers to SAM as their perceptions and experiences were interlinked with environmental sanitation and hygiene. They said that, whenever they are not taking care of their children, hygiene and environmental sanitation regularly have a significant influence on their child health.

“...Taking care of children, keeping their hygiene, and environmental hygienic practice has great impact on maintaining child nutrition health.” FGD 005b, 40/F

“...when you didn’t keep your child hygienic, you are unable to keep your baby well because there are different internal and external parasites that affect nutrient intake and uptake by the children.” FGD 007a, 25/F

“...children suffer from scabies, skin infections, and the mother too; lack of hygiene and sanitation will bring health problems ...if the cleanliness is not kept, the baby may scratch his body because of the dirtiness of the body and may lead to different infections; finally end up with acute malnutrition and complications.” FGD 002 g, 20/F

“...Hygiene and sanitation problems in relation to lack of or poor latrine access, has great impact on leading children to under nutrition...” IDI 011, 22/M

Theme 3: Food insecurity

The 3rd theme focused on how the community approached food insecurity in general. It has a role in undernutrition since food is among basic needs. It is a broad concept, and

respondents addressed their understanding and expressed their challenges in relation to its effect on the SAM.

“... I can't work daily labor because the twins suck my breast eagerly and I can't have a power to perform labor; and this put me and my children under circumstance of unable to access food, they are sick of SAM.” IDI 026, 23/F

“We are in trouble getting food; our children are suffering from under nutrition...the government is not looking us; some places ...supported by different stakeholders ... poultry production, fattening, rearing sheep/goats, town work for food programs, and different individual and grouped supports are expected to save the generation.” IDI 027, 30/F

“...We see in different Medias that the government is helping food insecure households and economically impaired mothers have to be treated by giving shelter, food, and sustainable development projects like urban safety net program.but why do the government left alone to death by acute under nutrition?” IDI 023, 35/F

Theme 4: Health system-related challenges

Health system-related themes are another theme focused on health system issues that directly or indirectly affect SAM management. There are a number of subthemes under this broad theme; health seeking behavior, health extension program status, supplies, service accessibility, effectiveness, professional ethics, and protocol adherence issues are addressed beginning primarily from the views on the case burden in the study area.

“...There was a large number of cases from the past year, which recorded more than 368 SAM patients admitted to our ward this year. The case flow is dominantly flowing from your study areas such as South Ari, North Ari, Jinka town administration, and the others.” IDI 004, 28/M

“...in our cluster, there are case burden in almost all kebele, and previously, we admit and treat cases that need further treatment of complications...” IDI 014, 45/M

“...when we see SC data of this year, it indicates that more than 20% of all acute malnutrition cases are admitted in complication...It was expected to share <10% of total under nutrition reports to be admitted to SCs.” IDI 004, 28/M

The health-seeking behavior of the community has effects on system improvement and feeds people to under nutrition management. However, different factors hinder the use of modern health services. Drug availability, professional approach, affordability, and awareness are among situations.

“...most of the time drugs are prescribed to buy from outside the compound from private pharmacies, which is not affordable and should be solved in line with the economic issue of the family.” FGD 005a, 35/F

“...unable to afford for the medications and even after being a member of CBHI, they are being allowed to buy drugs from private pharmacies.” IDI 009, 26/M

There is doubt among some responders about the effectiveness of the services provided by public facilities.

“...However, the father of the infant is with his recent trauma of lost his beloved wife in that hospital where we are taking the referral to. He was refused to go, because he has perception and trauma that anybody he took to that hospital may not come out alive,” IDI 019, 39/F

“... Two children were completely healed by *kella* removal after completely inability to heal by the doctors of health facilities.” FGD 004d, 25/M

Time to treatment is also perceived to heal in a very short period of time and unless the community by itself deviates from traditional practices.

“...I think that the progress to the treatment here in the hospital is not effective and not progressing.” IDI 002, 50/F

“...At least to stabilize the patient and prepare for the OTP phase, in the minimum of 1–2 weeks stay is needed. In this time, the farmers think for their work, home, and children left home,” IDI 004, 28/M

“...The length of stay by itself influences the patients to leave the service against medical advice because they need resources to stay with the sick child at admission, which is impossible for most families.” IDI 018, 25/F

Others complain of the issues of inaccessibility of services at all. Health centers have poor or no SC services, health posts are unable to reach marginalized areas, and the facilities are unfairly distributed according to their population and/or geographical location.

“...There are many areas lacking OTP services, no sustainable follow-up after the stabilization of the patient in hospital or health centers.” IDI 004, 28/M

“...We could not address far sites when we are busy, so in such instances children may get complicated malnutrition and may admit to the hospital by self-referral...the health post has to be established nearby to the community.” IDI 006, 32/F

“...Unfortunately, we have no SC service at all due to lack of room for management...” IDI 007, 31/F

“...More than 60,000 people are being served under this single health center in the district.” IDI 011, 22/M

In general, the use of medications and supplies has significantly increased due to the weakness of the health system as well as the challenge of contributing to SAM management.

“...Lack of Plumpy'Nut for long time which led many children to be re infection and admission...” IDI 010, 25/F

“... people are complaining in many ways, and I also asked on council meetings that why do people unable to

get drugs after paying for CBHI? We are costing other money to buy drugs from private pharmacies outside the facility..." FGD 007 h, 28/F

The health professionals' caring approach and implementation of the oath is another point dug from the perceived experience of the informants. Obviously, there were plenty of gifted health workers, and the reverse has occurred on some occasions.

"...The health extension workers immediately referred to the hospital and the hospital professional was insulted as she is a drunk person; then, she became nervous and took her child against medical advice..." FGD 005f, 30/F

"...Sometimes, we let them bring to kebele and arrest the mothers who didn't take care, and those could not give adequate food to their malnourished children according to our advice. The mothers claim that it was due to inability to supply...and the mothers most of the time change their rented home to other village to hide themselves from such follow-up and arrest." IDI 008, 24/F

"... Not only that, even if we go to the health post going far from our village, they talk hate and refuse even to talk with good words." IDI 017 a, 45/F

On the other hand, professionals are eager to save lives even through being able to beg their families.

"...I beg him to take the infant to that hospital at midnight; the medical director was with me..." IDI 019, 39/F

According to the health extension to community interaction, sometimes the community hides bad scenes from the eyes of health workers. This situation may lead them to understand their community as a normal or problem-free area. There was a case hidden by the community from the sight of health extensions.

"...The family kept her at home until the wound heals because the health extensions will insult them and may ask them why they performed that without recognition of health facilities." IDI 027, 30/F

The home-to-home visit problem is common in current health extension programs and is related to the nutritional status and management of children. There are many problems from scratch, screening.

"...previously, there was strict house to house follow-up to identify cases early and treat them immediately, IDI 012, 45/M

"...children are coming by themselves suffering from end stage acute malnutrition after trials of plenty of local traditional practices at home level..." IDI 012, 45/M

"...The health extensions are not reaching us for long time; they live on the kebele center only." IDI 017 a, 45/F

"...Previously, they were working hard, and at that time, we treated a number of cases every day until our room overflowed to handle the case burden." IDI 012, 25/F

"...in our village, the health extension workers did not address us...My baby has never vaccinated in his life time, no measurement of children's body is made, most of the time we seek prayers and prophets to pray on our child health." IDI 025, 28/F

There are protocol adherence problems in the management activities of health workers.

"...We use WHO 2019 updated guideline for our treatment; actually, there is protocol adherence problem with nurses, general practitioners, and all others." IDI 004, 28/M

"...On the management side, there is no follow-up chart which is mandatory to treat the patient in the right way following the necessary steps; unless there is no problem on the management skill issues." IDI 009, 26/M

"...I brought the baby on Sunday, 2 days back, and the hospital prescribed syrup to buy from...private pharmacy and sent us to home. We brought him having full edema of his whole body, including his scrota, but they have not ordered admission to the hospital." IDI 017 a, 45/F

There is a need for arrangements at each facility level according to the treatment guidelines and indications.

"...There is lack of stimulation area to test the appetite of children, and medications are not available." IDI 018, 25/F

"...The health extension workers are not measuring the target weight adequately to deescalate the cases." IDI 019, 39/F

According to the scope of nutrition problems, it is important to act in collaboration with different stakeholders, such as national- and international-level partners. Here, some points arose on the inadequacy of the partnership in this topic.

"...Previously, there was support from government and nongovernmental organizations, but now everything is neglected about nutrition." IDI 015, 27/M

Family planning is closely related to child malnutrition and adds a significant load to SAM management practices, as witnessed by caregivers.

"...Most of the time, it is also directly related to FP because, when there is no planned birth, the children end up with nutrition problems." IDI 007, 31/F

"...Sometimes it is difficult to judge, when you see a baby who looks like breast feeding comes with under nutrition, there is another baby at home younger than the undernourished case..." IDI 008, 24/F

"...Man made economic inability due to unplanned or miss planned way of leading life through number based family population." IDI 015, 27/F

For family planning, most of the time, supply problems were also addressed by the respondents.

DISCUSSION

The objective of this study was to explore caregivers' perceptions and experiences of SAM in children aged 6–59 months. This analysis identified four significant themes linked with the challenges of SAM experienced by caregivers. The themes had a crucial impact on children's nutritional health and reactions at the community level and/or in facilities. All of the identified factors were interrelated. The identified themes were community-related challenges (theme one), hygiene and sanitation (theme two), food insecurity (theme three), and health system-related challenges (theme four). Moreover, the dominant theme, which is community related, is vital to act on it to help solve the challenges of SAM in advance. In general, the schematic findings were concordant with the UNICEF conceptual framework stating the underlying, intermediate, and root causes of undernutrition.^[8]

The under nutrition especially the edematous presentation is misconceived by the community as it is fineness and being fat. This is consistent with the finding in the Jima, Ethiopia, it was Perceptions of children with edematous under nutrition as 'fat'.^[25] SAM is influenced by a mother's knowledge and attitudes, her choice of medication or method of contraception, and the nutrient content of supplemental diet is also raised by most of the respondents which is same in the study finding in Turkey.^[26] Narrow birth intervals and poor child care practices by the families at home as well as in the admission follow up, were found to be determinants of SAM management. SAM was substantially linked with decreased or maintained mealings consistent with a study in East Gojam, Ethiopia.^[13,27,28] There were risk factors related to seek of specific gender baby by the households led to have a larger family, birth spacing, and feeding children low-calorie, protein-rich foods. This finding is related to the study in Karnataka.^[29] There is a problem on early detection of symptoms in the community that leads the children to be addressed after complications. This is equivalent finding with the study in Mali, a large percentage of kids lack access to healthcare physically, and kids in their neighborhoods aren't screened for SAM.^[30] A typical SAM presentation is inversely diagnosed by the community and the traditional healers giving the name '*kella*' which is said to be a disease which comes genetically but has no relation with nutrition and perceived to have no solution in the modern medicine for that problem is devastating difference with the concurrent science. This perceived view and understanding is raised in a study in Eastern Ethiopia.^[11]

Malnutrition in children was not simply thought to be caused by lack of food, but was also understood in the Healers, seasoned community members and less expensive than alternative options, is often relied upon by parents. However, differences in health services and population views hinder efforts to eliminate hunger, as medical professionals

and healers differ in identifying and treating malnourished children.^[11]

This *kella* is removed by excision perceiving to remove the disease, that swollen the body; which is in the same way of understanding in the study from Zimbabwe, cultural assumptions suggest sunken fontanel is a disease caused by demonic spirits, and babies are treated with conventional medications like herbal mixtures. Participants were unaware of the impact on exclusive breastfeeding, similar to traditional South African illness "inyoni" being vulnerable to evil spirits and only treated with traditional medicines.^[31]

Parents struggled with lack of health-seeking behaviors due to lack of awareness, misconceptions about illness behaviors, poverty, workload, and traditional beliefs; insufficient infrastructures and challenging geographic settings; travel distance; lack of service; lack of organized treatment facility; lack of sustainable interventions; and discontinuity of stock supply; as the study in Amhara region also found.^[32] Social and cultural perspectives on child care methods nutritional status in children is correlated with inadequate feeding and care practices. The mother's initial course of action when a child is ill is to treat him or her at home with conventional medicine. They only visit the hospital when the child's health becomes more serious. This is also supported by the study in Benin.^[24]

As the study in Eastern Ethiopia supported, malnutrition in children is often attributed to a broader local conception of health and disease. Traditional healers, who are knowledgeable about the local culture and less expensive than alternative options, are often relied upon by parents due to their reliance on them. However, there are significant differences between how the population and health professionals view and discuss health. Many respondents believe that their reliance on healers is due to economic factors and lack of access to health centers. Families with malnourished children often face financial hardships, and may be reluctant to seek medical attention due to shame associated with malnutrition. Traditional healers maintain a strong position and are employed more frequently than medical facilities due to their trustworthiness in treating malnutrition.^[11]

As a nurse shared his experience, it is painful that people lacking economy were knowledgeable to give their beloved children to death, this broad and complex description is shared and stated will in different studies that social and economic advancement, there are still too many people suffering from hunger in the world. There is a critical link between economic standing, human capital, and nutritional status. Individuals' physiological and mental capacities are negatively impacted by malnutrition, which lowers production levels. Malnutrition and poverty are related, resulting in a vicious cycle where one feeds the other. Poverty

causes malnutrition by lowering the economic capacity of the population, while malnutrition worsens poverty by raising the likelihood of food insecurity.^[33]

As most of the cases were managed either by their grandmothers or mothers in law, there are also other situations that almost all children were kept and managed by six to seven years old children to feed and keep the children during the day time. In nutrition programs, care is a crucial element in highlighting the role of mothers or other caregivers as intermediaries for their children's health and nutrition. Care includes giving time, attention, and support to the growing kid and other family members in the home and in the community to meet their physical, mental, and social needs. Different studies support this finding that the maternal physical and mental health state, their decision-making autonomy, knowledge, social support, and time availability are frequently taken into consideration when determining the necessary caring resources.^[34] The care is related to their economic capacity, which let them to move and spend their day time for searching food leaving the children at home without adequate care. As the report from the study in India and Nepal, the majority of the children were from poor socioeconomic status families, and severe acute malnutrition was common.^[35] As the community is more of rural dweller, they are prone to report complicated SAM cases especially the highland areas of different districts have a number of cases. India and Pakistan studies also support this study that the prevalence of higher levels of malnutrition was assessed as a result of the community's predominant population's lower socioeconomic position, particularly in rural areas.^[36,37]

When the community is controlling the environmental health, on the other side the children and the whole community health is invested. This is also investigated as the clinical indicators of nutritional inadequacies were more likely to manifest in children who practiced poor personal cleanliness and environmental sanitation in Nepal.^[38-40] The study findings are almost same as review findings on environmental factors, such as lack of access to water and sanitation systems and poor hygiene habits, are thought to be responsible for up to half of all under nutrition.^[41]

Respondents addressed and expressed how they suffer to get and feed themselves including their children. In this situation talking about dietary diversity and nutrition is difficult in the absence of any food item to eat. This finding is also studied in Ecuador reported having food insecurity exhibited reduced food intake patterns and less varied diets.^[42] From the families of admitted children, almost all were not in a food security condition at all.

According to a study conducted in Oromia, 54% of food-secure homes were shown to be protective against child under nutrition, while more over two-thirds of households

were categorized as food insecure.^[43] As a women informed, the meal frequency is estimated to take twice a day as much as possible for the adults and they believe as good feeding frequency when they feed three times a day for their children. A study in Amhara has same indication; taking food in its appropriate frequency and diversity of meal, environmental and personal hygiene are important preventive factors of SAM.^[44]

There are different factors hinder seek for the modern health service. Drug availability, professionals approach, affordability, and the awareness are among situations health facilities performance and the health workers commitment is also another problem. Rehabilitation of non-functional facilities, and recruitment and retention of health professionals in remote regions are operational recommendations for managing acute malnutrition. Routine medications were scarcely ever provided to health posts; instead, they were only occasionally and insufficiently delivered in some locations. This finding is consistent with the study in Bangladesh reported the accessibility of medications at the clinics had a significant impact on attendance. Health professionals claim that when there are drug shortages, attendance substantially declines and some community clinics may even close.^[45]

Different factors hinder the use of modern health services. Drug availability, professional approach, affordability, and awareness are among the situations in which health facilities perform, and health workers' commitment is another problem. The rehabilitation of nonfunctional facilities and the recruitment and retention of health professionals in remote regions are operational recommendations for managing acute malnutrition. Routine medications were scarcely ever provided to health posts; instead, they were only occasionally and insufficiently delivered in some locations. This finding is consistent with a study in Bangladesh reporting that the accessibility of medications at clinics had a significant impact on patient attendance. Health professionals claim that when there are drug shortages, attendance substantially declines, and some community clinics may even close.^[26]

The SAM treatment by itself needs some time in different phases especially at health centers and hospitals stabilization processes. Most of the time families expect to bring back the ir children within two to three days to their home due to different reasons, either for the sake of economy or helping the remaining children at home, a study in Addis Ababa is consistent in terms of patient readmission status, length of hospital stays, and the absence of supplements, characteristics that hinder the delivery of therapy were linked to perceptions of the overall quality of care for SAM management.^[46] Marginalized areas of different kebeles were almost in accessible to the nutrition management services. Treatment seeking is a result of a person's ability to seek

treatment as well as their motivation to do so. Care-seeking capacity may be hampered by a number of factors, such as limited geographic accessibility, financial obstacles, and constrictive socio-cultural influences in which the finding has similarity with studies.^[47]

Health extension workers are dramatically influencers of the health system in the area, although in the past few years the system has some poor performing condition. As the study in Kenya and Bangladesh reported on the equivalent community health workers (CHWs), concerning the perceived potential role of CHWs, the majority of communities felt that more involvement with health workers would assist families facing similar challenges, including through door-to-door visits to help family members identify problems, advice, and referrals to health facilities where necessary. The most vulnerable, high-risk children should be targeted.^[48] Findings reveal that early detection and treatment in the community can enhance coverage of SAM in a cost-effective way. However, distance to health institutions remains a substantial barrier for caregivers to attend treatment services. Lack of crucial commodity stock is another frequent issue that affects performance.^[49]

This study sheds light on how young caregivers actually deal with SAM. Different perceptions and experiences among the caregivers were discovered through data triangulation, as shown by the use of diverse IDIs and FGDs to enrich targeted talk. The ability of qualitative investigations to pinpoint perceptions and experiences from the viewpoint of participants is another advantage. The identification of a variety of ideas and practices that most likely would not have been found through a quantitative technique was made possible through the use of an IDI approach.

The study's techniques and outcome analysis are strong points. When participant families relate their actual experiences, recall bias is all but absent. All study participants were interviewed at the time of admission to follow-up in institutions and the OTP. The participants were chosen from various families and localities to obtain a more diverse variety of ideas.

The present study's limitation is that it does not include additional opinions or real-world experiences, particularly with regard to the traditional therapeutic techniques used to treat SAM patients, regardless of their viewpoints regarding the diagnosis of SAM symptoms. Quantifying the community's *Kella* practice and its impacts on SAM management methods is the other restriction.

Recommendation

To the community

Increased awareness of the community and the shaping of misperceived child nutrition health-related issues using

platforms such as the Health Development Army and Community Health Day mobilization are necessary. The community has to strengthen care for their children in terms of feeding a variety of foods using locally accessible ingredients.

To the health system

Increasing supplies and inspiration for health workers to serve communities with integrity and dedication increased the availability and encouragement of health workers to serve communities with integrity and ethics. Improvements in environmental hygiene and sanitation must be maintained, and health system accessibility and approaches involving healthcare workers need to be improved.

To the policy makers

Economic empowerment of the community is mandatory according to its linkage to SAM management. Health system strengthening or boosting approaches are needed to improve the collapsing health extension program.

To the researchers

Traditional practices, especially *kella*, have been debated by modern medicine workers and by traditional community perspectives, and further, investigations are needed to address their scope and effects on SAM management as well as on child health.

CONCLUSION

This study revealed that a variety of issues pertaining to children with SAM presented challenges for both child care providers and families. Four themes emerged from the research: Community-related challenges, hygiene and sanitation-related challenges, food insecurity, and health system-related difficulties.

There are gaps in the community's knowledge of acute malnutrition and associated treatment methods. On the other hand, almost all of the participants in the entire family coaching and leadership program point to the lack of a loving and caring spouse as an issue. Traditional methods, particularly *the Kella method*, have been used mostly in research areas with different diagnoses for patients with similar symptoms of acute malnutrition. Children with SAM have to deal with it on top of everything else. The community's financial capacity has an impact on the nutritional status and overall health of children. Families with low incomes were unable to provide healthy upbringing for their children and could not pay for the facilities' medical services and medications.

SAM management was impacted by the community's environmental friendliness and personal hygiene standards, which led to an increase in caseload and caregiver stress. SAM management and WASH practice accessibility are intertwined.

The SAM families frequently struggle with food insecurity, and there is a correlation between variations in feeding frequency and food insecurity. Food-insecure families suffer to meet the dietary needs of SAM kids.

The health system, particularly its offices, hospitals, clinics, and health posts, as well as the workforce, has its own constraints concerning resources, service delivery, and professional ethics. Due to the difficulty in obtaining healthcare facilities, a portion of the population is being compelled to use traditional means.

Availability of data and material

The datasets used and/or analyzed during the present study are available from the corresponding author on reasonable request.

Authors' contributions

The sole contributor to this research is TSH.

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Ethical approval

The research/study approved by the Institutional Review Board at Chief Research & Community Service Directorate, number CHSM/ERC/01/15, dated 9/2/3016 E.C.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The author confirms that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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