

Assessment of Barriers that delay for Acute Malnutrition Treatment among under-five children in Lay Gaynet, Amhara, Northwest Ethiopia: 2020. A Qualitative Content Analysis Study.

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Abstract

Background: about 55 million children under the age of five suffer from acute malnutrition; 19 million of these suffer from the most serious type of severe acute malnutrition. Every year, 3.1 million children die of malnutrition. However, evidence in the study area is rare. Thus, exploring barriers that delay acute malnutrition care of under-5 children qualitatively to have for detailed understanding and evidence-based interventions in a holistic approach is vital.

Objectives: The objective aimed to explore the barriers that delay acute malnutrition treatment services among parents/caregivers having under-five children from June 01/2020 to August 28/2020.

Methods: A descriptive qualitative content analysis study with a purposive sampling technique were employed to conduct in-depth interview among parents/caregivers, and key informant interview among health workers, health administrators and community health development army leader. The data was collected by two trained research assistants, 6 parents/caregivers for in-depth interviews, and 16 participants for the key informant interview with observations of the practice. Open code version 4.02 software was used for data management during analysis. Coding and codebook were prepared. There were simultaneous data collection and initial analysis to grasp what was said and how it was said by memoing, verbatim transcription was undertaken. All of the audio-records were transcribed verbatim and translated from Amharic into English by an experienced translator for analysis. We provided both the transcriber and translator with a brief description of the research scope and objectives of the data to enhance their understanding of the subject matter. The transcripts and translations were cross-checked for consistency. A qualitative content analysis method was hired to conduct the analysis process.

Result: Parents faced lack of health-seeking behaviours: lack of awareness, perceptions of illness behaviours, poverty, workload, and traditional beliefs; poor infrastructures and difficult geographical setup, the travel distance, inaccessibility of the service, and lack of organized treatment facility, COVID-19 pandemic, lack of sustainable interventions, lack of skilled and committed health worker, lack of health worker training, discontinuity of stock supply and long waiting time to receive the treatment were identified as the barrier for early prevention and treatment of under-5 child acute malnutrition.

Conclusion: The health education and promotion on social behavior change communication (SBCC) had to be strengthened, and monitored along with health workers' skill development and successive training. There should be strong and close monitoring and evaluation of the impacts of the service provision and inter-sectoral collaborations among different sectors. It also needs to evaluate the impacts of projects in the area on SBCC for AMTS.

1. Introduction

1.1. Background

The wide-ranging, quality acute malnutrition treatment health care services are important for promoting and maintaining under-five child health, preventing and managing hasty recent weight loss and growth faltering, morbidity, and premature death(1). In the year 2016, 80,060 of 400,000 estimated severe acute malnutrition (SAM) children had faced medical complications and it was time for the need of intensive lifesaving medical treatments in health facility-based therapeutic feedings; alongside 1.7 million moderately acute malnutrition (MAM) pregnant and lactating mothers needed access to emergency health services(2). Globally, about 55 million children under the age of five suffer from acute malnutrition; 19 million of these suffer from the most serious type of severe acute malnutrition. Every year, 3.1 million children die of malnutrition(3).

The problem of acute malnutrition treatment delay is aggravated by poor infrastructure and accessibility of treatment services. As pointed out in Nigeria, about 39% of the population access health facility within one hour walk during the dry season, and it decreased to 24% during the wet season due to poor infrastructure which accounts for 90% of non-paved roads to access the treatment services(4). Due to this and different factors, in 2015, it was estimated that 50 million under-five children were affected by acute malnutrition globally and the highest rates of under nutrition were reported in Africa, Asia, and Oceania(5).

Although Ethiopia had designed a new guideline for acute malnutrition treatment to increase the access and coverage of the services (9), evidence showed that only 3 out of every 10 of all episodes of underweight received proper health attention for treatment which articulates the treatment service is low and it contributes for 24% of all child mortality (10). Additionally, evidence showed that there was a high admission rate for under-five children in Ethiopia (11). Thus, exploring barriers that delay parents/caregivers for acute malnutrition treatment can contribute to disclose the barriers and provide evidence-based decisions in a healthy structure and the community that can help to scale-up the access and coverage of acute malnutrition treatment services(6).

The trends of the global prevalence of childhood underweight are estimated to decreasing in all parts of the world. However, the case is projected in increasing fashion in Sub-Saharan, Eastern, Middle, and Western Africa. This trend alerts the world and Africa that are not on the track of achieving malnutrition reduction(7). It is evidenced that twelve African countries have very high levels of childhood underweight which contributes to the insignificant change of child malnutrition reduction in that Ethiopia is one of the affected countries with a high level of childhood malnutrition(7).

Similarly, the service provider for acute malnutrition treatment among under-five children hindered and Amhara regional state accounts high prevalence of under-weight and poor nutritional status. The high admission rate, bed occupancy, and length of stay indicated the higher the delay or the lower cure rate for treatment (8–10). Lay Gaynet is also one of the highly affected districts by nutritional problems in the region that the Growth Through Nutrition project is running to reduce malnutrition problems though the problem is not significantly reduced yet (11).

There are different concurrent and conflicting perspectives on the problem and it was the clinical assortment that was considered as a disease perception in the community rather than viewing under nutrition as a disease. In that case, parents/caregivers were unlikely to behave to consult health workers if the child was lone thin(12–14). Again, parents'/caregivers 'health-seeking behaviours on accessing the service of acute malnutrition are also poor(15). The provision of health education and promotion, counselling on beliefs, motivation and awareness creation(16), linear child growth interpretation had not guided by nutrition and health system programming which had dominated by community norms; additionally, there is a need for early identification of acute malnutrition (17, 19). Even though the services for acute malnutrition in every allopathic health facility had said to be delivered, the attendance for treatment remains low in the country(16). Though studies assured the low service utilization quantitatively, still there is a huge gap in knowing barriers of acute treatment in health facilities(17–20).

Again, qualitative research is rarely done to explore the barriers in the study area. Consequently, knowing the detail is critical to have evidence-based intervention against the barriers for missing the mark on acute malnutrition treatment among under-five children.

Thus, this study aimed to explore barriers that delay acute malnutrition treatment among under-five children in Lay Gaynet, Northwest Ethiopia.

Even though exploring barriers for acute malnutrition treatment/care delay among parents/caregivers having under-five children (0–59 months) is a key factor for the reduction of acute malnutrition, morbidity, and mortality, little is

known about the current factors influencing the utilization of acute malnutrition treatment services early in allopathic health facilities. Although different factors were identified for the reason of care delay, most of the studies were quantitative studies, they were not done in the study area, they might be different in socio-economic, cultural and other related issues, availability of the service and understandings of the problem might be different. Again, qualitative research was rarely done to explore the barriers in the study area. Similarly, this qualitative study was conducted from the time and place context of acute malnutrition treatment. Therefore, to have detailed understandings of the reason for treatment delayed to intervene in the problem with an evidence-based approach this qualitative content analysis study was done. Consequently, knowing the detail is critical to have evidence-based intervention against the barriers for missing the mark on acute malnutrition treatment among under-five children.

This qualitative study is, therefore, aimed at filling the gaps, by attempting to explore details of the barriers for acute malnutrition treatment/care services delay among parents having under-five children.

Therefore, different stakeholders could utilize the finding of this study for a holistic approach and designing their evidence-based intervention strategy for advocacy, health education and promotion, nutritional counselling, and community mobilization.

In our study of this descriptive qualitative content analysis, we thought to answer the questions listed below with probing questions;

- Reasons for delay in seeking acute malnutrition care (AMC)?
- Reasons for delay in reaching Acute malnutrition care (AMC)?
- Reasons for delay in receiving adequate Acute malnutrition care (AMC)?

1. Objective

1.1. General Objective

To explore barriers that delay acute malnutrition treatment/care among parents/caregivers having under-five children in Lay Gaynet, Northwest Ethiopia.

2. Methods

2.1. Study setting and period

The study was conducted in June. 01/2020 to August 28/2020 in Lay Gaynt, South Gondar Zone, in Amhara regional state which is a Northwest Ethiopia; above 735 km from Addis Ababa. The study area was a vulnerable study setting for under-five childhood acute malnutrition. The area was identified as one of the priority areas for growth through nutrition (GTN) and sustainable under nutrition reduction in Ethiopia (SURE) project nutrition intervention with social behaviors change communication approach (SBCC). There was one primary hospital, nine health centers, and forty health posts throughout the district as per the interview obtained from the district health department on June 22/2020.

2.2. Study approaches/design

A descriptive qualitative content analysis study approach was employed to conduct the study on barriers that delay acute malnutrition care of under-five children to obtain a full understanding of barriers for missing the mark in health

facilities.

2.3. Study participants

There were 22 study participants recruited. The study participants were parents/caregivers having under-five children with acute malnutrition who were delay for acute malnutrition treatment and admitted in inpatient care, health care providers (health administrative bodies: head/coordinator/medical director of health facilities, district health department, zonal health department, and regional health bureau), NGOs key personnel and health workers working in acute malnutrition ward.

Parents/caregivers with acutely malnourished children and who did not visit health facilities for acute malnutrition treatment were also participants.

2.4. Study participants Recruitment Technique

The study participants were recruited by a mixed non-probability sampling technique. A maximum variation purposive and snow-ball sampling technique were used to recruit the right participants.

Hence, everyone did not have the same level of experience or engagement with all issues or concepts; they did not expect to equally adept at reflecting upon or articulating their experiences and due to the need to go where we could get data to work with to recruit participants who were 'information-rich'; parents/caregivers with under-five children who suffer from acute malnutrition and/or admitted to inpatient care were selected purposively until information redundancy was reached. Snowball sampling was employed to reach those parents/caregivers who have had an acutely malnourished child but that did not come to health facilities by requesting those parents/caregivers' that already attended the treatment whether they knew parents/caregivers who have/had an acutely malnourished child in their neighbors and/or influential community leaders if there were practices of traditional healer preference than treatments in allopathic health facilities.

2.5. Data Collection Process

The data was collected by trained two research assistants using a semi-structured interview guide and an observational checklist with close follow up and full engagement of the principal investigator in interviewing. One of the research assistants had experience in qualitative data collection. The participants were made blind about the interviewer including the purpose of the study.

On the other hand, participants were interviewed face to face using interview guides contained queries proving factors that delay the use of acute malnutrition care services at different levels in the study area. The interview guides were piloted and the questions were modified based on the findings from the pilot found. The duration of the interview ranges from forty to ninety minutes.

There was day-to-day debriefing to discuss on progress of data collection, identify saturation levels, refine queries, and support the quality of the research process with PI and the research assistants. The interviews were carried out in the usual work settings of participants: hospitals, health centers, and health posts in the absence of other work people other than the interviewer and the participant. The in-depth interviews were conducted using the interview guide prepared considering the logical order of asking warming-up questions, cool off and closure sequencing approach and with precautions not to present leading questions.

The IDIs and KII were conducted by one interviewer and a research assistant. Field notes had been used during both in-depth interviews and key informant interviews. All the data collection was recorded by an audio recorder.

Observational Data collection

The observation was conducted related to acute malnutrition including remarking the type of care provided in each health institution, the weighing technique, the intimacy/linkage/ relationship of parents/caregivers' approach with health workers, and how the treatment was done and records were filled. The observation was held on reviewing child health cards, register books, weighing skills, and counselling techniques whether there was an intimate link with a greeting, asking, listening, identifying, discussing, recommending, accepting, and appointing (GALIDRAA Approach) was based on the observation checklist.

2.6. Trustworthiness

2.6.1. The credibility of the study

Regarding credibility, there was prolonged engagement until information redundancy was obtained. There was insistent observation and searching for negative cases, peer debriefing, re-reading of the transcribed data for familiarization, member checking, and data triangulation to have a clear understanding of the local contexts of the problem (21).

2.6.2. Transferability of the study

The study had a thick description of time, place, context, and culture to have applicability of the ontology and epistemology derived from this qualitative study to other situations depending on the similarity between the study's context and the reader's context(22). The study tried to have representative participants from different levels. Therefore, the readers had judgments of the transferability of the finding of this study.

2.6.3. Dependability of the study

The dependability of this study was assured and made sense by making it clear why the study was done, what was done, and why it made sense given the data. There was a codebook (organized list and definitions of themes), codes (shorthand notation for themes), topics and concepts preparation after intense reading and memo to index the data set. One-third of the data were used to develop the data and developing codes was stopped when it was reached the saturation level(23).

2.6.4. Confirmability of the study

The study finding confirmability were guaranteed with the research supported by the data collected and triangulated at the ground data gathered with authenticity considering fairness to represent all views adequately, an evocation of emotional or intellectual impacts of the work with mental-map/memory of the process and outcome and critical change of conscious-raising among participants to empower them in participating in the study which could be confirmed by other research auditors by tracing back the data gathered(22, 24).

2.7. Data analysis

All of the audio-records were transcribed verbatim and translated from Amharic into English by an experienced translator for analysis. Two incomplete interviews were identified during the transcription process and interviews were repeated for those participants. The analysis was done from verbatim transcripts, memos, and opinions taken from participants considering what was said and how it was said was focused and the content analysis approach was hired. Content analysis approach was done which is an appropriate analysis approach for recorded human communications that enables, with conceptual analyzing and relational analysis for analyzing the relationships of concept with manifest (observable content) and latent content (the underlying meaning of the content) in the data

gathered from interviews. Open code version 4.02 was used for qualitative data management during analysis. The collected data was read and re-read, memos were taken using memo notes, & codes were developed, the inter-coder agreement was prepared. The entire data set was also coded by the research assistant and the co-author. Analytic tools were used to describe socio-demographic, different barriers, compared with others, and categorize into their level of influence for acute malnutrition treatment delay. Finally, there was a validation of findings with data accordingly to build an explanation and theory for barriers of acute malnutrition treatment delay in government allopathic health facilities.

The analysis had a thick description based on the breadth, depth, context, and nuance of barriers for acute malnutrition treatment delay among participants' perspectives.

Figure 4: Theme tree of major and minor themes in Lay Gaynet, South Gondar, Northwest Ethiopia, 2020

2.8. Ethical consideration

This study's code of research ethics addresses the participants' autonomous rights, clarify the benefits, and disclose possible harms that might suffer during the research. The participant selection process and the study area were clearly stated in the information sheet with clear and detailed descriptions of the study purpose. The research also respects justice and fidelity in the consent form to assure confidentiality. The basic study protocol was approved by the Addis Ababa University College of health science ethical review board. After approval of ethical issues, ethical clearance, and letter of permission and support letter was received from Addis Ababa University, school of public health Ethics Review Board (IRB).

Again, a Support letter and permission were obtained from Amhara public health institute, the zonal health department, and the district health office.

Finally, consent was taken from correspondent participants after the information sheet has read and clarified for the respondent by their understanding of language. Written informed consent was obtained from respective participants.

3. Result

3.1. Sociodemographic Background information

There were twenty-two study participants for in-depth and key informant interviews; none of them refused to participate in the study. One of the participant's children was aged above four years; stunted, wasted, and unable to go. The other three participant children were aged less than one year and one participant child was three years of age.

The parents range from 28–38 years of age while the health worker participants were aged from 25–35 years and administrate aged 28–41 years of age with educational level from level III-to-post graduate level. There were only two literate mothers. One of the literate mothers was a primary school teacher and the other mother was a grade eight complete housewife-mother. The participants' family size ranges from three to a maximum of six family members.

The following table summarises the socio-demographic information.

Table 1

Background information of the study participants for barriers that delay for under-five children acute malnutrition treatment, Lay Gaynet, 2020.

Level	Participants involved	Profession/occupation	sex	Technique	No. of participants
Community	Parent/Caregiver/s/	5 farmers	4females	IDI	6
		1 teacher	2 males		
	Community leader	Farmers	Female	KII	1
Health professionals	Focal/assigned Health worker/s for acute malnutrition care	3 nurses	3 females	KII + Observation	6
		1 pediatric nurse	3 males		
		1 physician			
		1 health officer			
	Health Extension Worker	Health extension worker	female	KII	1
Facility	Health service coordinator/head/medical director at hospital/health	1 health officer	male	KII	3
		1 nurse			
		1 physician			
	Hospital Manager	Health officer	male	KII	1
Administrative	AMTS program coordinator/head at the district	Health officer	male	KII	1
	AMTS coordinator/head at the zonal health department	Nutrition unit coordinator	male	KII	1
	AMTS coordinator/head/regional health bureau	Malnutrition reduction project coordinator	male	KII	1
	NGO coordinator	SBCC nutrition officer	male	KII	1
Total	Ten types of participants				22

3.2. Delays in decision making for health-seeking Behaviour

3.2.1. Parents' awareness

The awareness of parents was found at the grass-root level. They did not aware of acute malnutrition treatment and the consequences of malnutrition. The nutritional health education and promotion program undergone in the district health facilities were observed missed and priority was not given in practice though it was perceived implementing along with other health education sessions. A parent who had got three times relapse of under nutrition for the under-five child stated the scenarios;

".....there are health extension workers. They did not give us health education in the institution. They told us to give food but there is no nutritional health education session while I stay here." /Father IDI: P11/

The mother said that "... hence, we are farmer, we did not get cabbage, to get a balanced diet." /Mother IDI: PI2/

Unless a child of under-five ceases eating, got high febrile, loses weight accidentally and diarrheal disease observed simultaneously, parents did not recognize that the need for a well-child visit and they did not relate their children's illness with malnutrition. The wasting and skinniness of their children were considered natural and especially if the child was born wasted and inactive, they would be painstaking it as dissension of GOD. Thirty-eight years of age mother stated that,

".....it is the penalty of GOD that is taken their health like this of my child. I do not know out of this. I go to the health facility and for the wholly-water when my child gets ill." /Mother IDI: PI4/

3.2.2. Parents' perception of ill-role behaviours

The parents of under-five children did not have ill-role behaviours towards their child unless their child got weakened and slept due to ailment. The delay for early treatment was strongly related to their perception of their child was not ill or well while the under-five child has been playing. If the child gets out of home for those children started going, playing, did not get a high fever, faced emergency accident and did not cry differently from the normal trend, then the child will not bring for a well-child visit.

"It is when my child is ill that I come to the health institution for my child treatment....." /Father IDI: PI1/

"Unless my child is ill why I come to the health facility; I did not come to the health facility unless my child is ill. But for my child's vaccination, I bring my child to the health worker timely., I did not go for a well-child visit to the health facility." /Mother IDI: PI2/

3.2.3. Traditional Beliefs

Concerning beliefs, though there is a change in traditional beliefs, there is still a valuing of traditional beliefs among the parents towards their under-five children. The parents believed that the health of their under-five child can be harmed by traditional beliefs like "evil eye".

"Some parents believe "evil eye". When their child becomes sick, they come to the health institution for treatment but occasionally, they raise a new idea and stand to go home saying 'there is an unfinished issue left undone at home that we should have to go home.' They believe in the "evil eye".for traditional treatment. They believe that if a child is affected by the "evil eye",the child has not been injected with the needle (IV) for treatment." /Health worker KII: PI8/

Traditionally, there is a medicine prepared by themselves as a healer for healing and/or identifying "evil eye". A woman from community health development described medicine preparation and utilization as follows:

"even when it is 'evil eye', the child will be brought to wholly water; there is a little onion and 'tenaadam' spices which will be ground, mixed and tied with a cotton cloth then wet with water and knead dough it with the fingers; finally smelling to the child. If it is an evil eye, the child will be annoyed, crying severely. Then the child will be brought to wholly water and there is a spiritual book that will be read and the wholly-water will be spray on the child or baptized; there is no witch doctor nowadays;/Community leader KII: PI14/

3.2.4. Workload

Mothers also claim workloads at home; cooking for food, take care of other children and their husbands were among the indicated prioritized tasks for them as the community norm. Bringing a child for health care was perceived as the

child got a severe illness or the child's life is in between surviving and dying. In this case, the mother has to piggyback her under-five child to take to a health facility or wholly water.

"..... I gave close births and I could not find who can take care of my small children. However; if my children got ill, I leave all things and bring them to the health facility.I may not get a supporter that coordinate and give food for my family members, my child;" /Mother IDI: PI2/

3.2.5. Poverty

They produce cereals and legumes once or twice a year. There were no expanded irrigational activities in the area and the people rarely producing fruits and vegetables. The people had low varied agricultural production. The people seek aid for basic needs. They claimed a lack of money, different agricultural products: a lack of different types of cereals, legumes, fruits, and vegetables for their under-five child malnutrition. To diffuse different agricultural production, the government in collaboration with the non-governmental organization has had selected a model nutrition village to show the variety of agricultural production for farmers. However, the initiative was not actively functional yet. Parents faced economic crisis and got their under-five children malnourished; denied early treatment.

A mother who worried while thinking of the distance, geographical setup, lack of money for transportation, and opportunity cost stated as follows;

"it is incapacity; Economic issues, there is a lack of money to treat early though I found collecting or debiting a loan for mandatory treatment of my child's illness. It is poorness which is the main challenge."/Mother IDI: PI2/

3.3. Delays in reaching for acute malnutrition treatment services

3.3.1. Difficult geographical location

The topography of the district was mountainous, gorge, plateau, and butte with a lack of transportation. There are jungles, rivers, and farmlands in a widespread phenomenon. The onerous type of topography hinders parents from early reaching their under-five children to the treatment center. Due to the topography, the households were sparsely populated and difficult for health extension workers and health workers to reach the parents with under-five children and vis-versa.

"..... the travel distance makes my heart weaken and I become tired off when I think of the travel....."
/MotherIDI: PI3/

"The area is unreachable; it is a wide area, it is a remote area to travel, there is a challenge of coverage. The health extension worker cannot go to a very remote area because there are rivers, jungles, and distance. So, if you order a health extension worker there, she will not."/Health worker KII: PI10/

3.3.2. Distance from the health facility and Transportation system

In this category, the parents with under-five children faced long-distance travel for accessing under-five child malnutrition treatment that took above 80 km. Some places took 10:00 hours of barefoot travel or by stretcher carried by humans. Health extension workers also went to work by traveling a distance that took at least 3:00 hours of barefoot travel.

"..... there is a feare of rape for mothers to travel alone; even we go for vaccination and community service for a distance of about 3:00 hour barefoot travel being two and above....."
/Health worker KII: PI13/

Among the nine health centers, five of the health centers did not have accessible transportation. The road was onerous, full of dusty, gravel, crinkum-crankum, and undulation due to the areas' mountainous topography. Those at the farthest distance have relapsed from the case or they did not come totally for treatment.

A mother of 43 days age child who came travelling more than 2:00 journey carrying her child on her back responded that:

"It is incapacity: the transport, family case; I am a mother of children, I did not get a person that coordinate and give food for family members, my child, and the travel distance make me my heart weaken and I become tired when I think of the travel" /Mothers IDI: PI2/

3.4. Delays in receiving for acute malnutrition treatment services

3.4.1. Lack of organized treatment facility

The health institutions did not organize in a way of organized treatment rooms, continuous stock supply, skilled health workers, and committed monitoring and evaluation of the programs. There was only a single bed observed in one health institution and a mattress without a bed in another two health facilities.

"..... lack of rooms for under-five child malnutrition treatment.....the health workers know its consequences on quality of care." /health worker KII: PI7/

3.4.2. Quality of care and skills of Health workers

The health workers who were assigned as focal persons and those who were working at under-five child malnutrition did not have full recognition and skills on under-five child acute malnutrition management.

"I have no enough awareness. I observe the prescription /order/ of F-75, or transition to the second stage, F-100, then I will provide the order and gentamycin and antibiotics will be given based on the order.I did not know the updated guideline but I give care and treatment based on the order/prescription of the physician."/Health worker KII: PI8/

".....malnutrition treatment needs proper management due to its complications of the management.....the main problem for quality service is lack of compassion and kindness which is lack of commitment among health workers. There is also poor quality of health worker graduatesOn the other hand, trained health workers are not committed to serving and they are not different from untrained health workers for screening, counselling, and treating properly which is a challenging barrier for under-five child malnutrition care and treatment."/Managers KII: PI15/

3.4.3. Nutritional Counselling and education

The role of nutrition education and counselling was missed and miss managed in health facilities and it did not provide in an organized and planned way.

"A nurse health worker was treating a 43 days of age infant in health; she receives the mother and told the father to stay outside the room; then she invited the mother to take a sit on a chair and she started asking what happened to her infant. The mother then responses that her infant did crying and decreased breastfeeding..... for the questions of the nurse. The nurse, after taking the history; told to the mother to breastfeed her child and refer to OTP without an anthropometric measurement (No MUAC and weight) and recognitions of under-6 months of age child treatment protocol. /Under-five child care unit Observation: OPI1/.

There is a gap from parents' side to ask health workers about their child health, what to do, how to do and they perceived that every treatment would be given by the health worker and they did not have a right to ask rather they had to implement what the health worker orders them. They did not understand that there might be misunderstanding and management of the case by the health workers. Parents draw health workers the doer and actor of everything.

".....there is haggling at the beginning. The health workers are good; I did not get a challenge. otherwise, if they refuse to treat my child, I will go back home without getting the treatment and my child may die. I come here for a third time due to my child's illness. In the first visit I stayed for a week, for the second time due to relapse it was five days I stayed admitted, and for the third time it is my third day of admission now while I come here." /Father: at Hospital: IDI; P11/

The health workers did not recognize the counselling process as an on-going way and that could be used for the feasible course of action in the treatment process of under-five child malnutrition, they did not use job-aids for counselling of parents. They did not emphasize the counselling rather they treat under-five children and communicate to the parents in an unscientific accustomed way of arbitrarily GALIDRAA approach counselling.

".....; we did not follow the procedure of GALIDRAA approach; hard for me to say that we followed the procedure. To say that I have to say welcome; introduce name, I have to sit and discuss every activity; If I say that, I did those of everything, it will lie; /Health worker KII: P17/

The barriers to the delay of parents of under-five children with an acutely malnourished child for early treatment from the perspectives of the participants were viewed in the following diagram.

4. Discussion

For under-five children, acute malnutrition, as depicted by many scholars, recent weight loss, with and without medical complication, was an issue that the developing world was not on the track of achieving prevention of it due to different barriers(25, 26). The participants had the attitude of classification of acute malnutrition as non-case unless their child had complications: diarrheal diseases, high fever, stop breastfeeding, and meal due to lack of knowledge about child malnutrition which is allied with other studies (13, 27).

Parents conveyed that their decision on early acute malnutrition treatment was influenced by their low level of awareness and lack of knowledge about under-five child acute malnutrition. Like other findings, this study found that unless their child got ill and faced a chance of dying or living they did not aware of early treatment(28). This might be due to limited sources of information and poor coverage of the service. On the other hand, a malnourished child with complications would not be brought to the health facility leaving the rest of the family members which is also related to the burden of workload.

The perception of the under-five child's parents towards ill-role behaviours (illness behaviours undertaken and perceived as ill and seeks relief) was when their child had faced acute malnutrition with complication(29). There was a difference between literate mothers, illiterate but consistently trained mothers by health extension workers, and illiterate mothers regarding perceptions of child acute malnutrition which implies strengthening health education and promotion. This finding was comparable to a qualitative study on perceptions of childhood under nutrition among rural households on the Kenyan coast and health care seeking behaviours in Ethiopia(14, 30).

The traditional belief was one of the findings that the parents of under-five children had delayed for under-five child acute malnutrition treatment. While parents had to wait for natural recovery, supernatural regaining like baptizing with wholly water/spy and true-cross body lapping, traditional healing, and beliefs of "evil eye", their child got acute

malnutrition with complication(31). A study conducted in South Africa on a mother's choice finds similar finding on beliefs in the treatment of their under-five children(32). The parents' uncertainty and delay regarding their under-five child malnutrition treatment might be due to low diffusion of social behaviours change communication, low coverage of health education, and nutritional counselling.

The existence of rivers, jungles, and crinkum-crankums (up and downs) had made parents tired off and they had preferred not only to delay for treatment but also absent for modern treatment. This study was consistent with a qualitative study conducted in Jimma and West Harrerghe zone(18). Although the evidence was limited, parents were also exposed to rape virulence and they, parents, raised the difficulty of travelling alone. To solve this, mothers had to request males, husbands, and young child/adolescents, during farm season to go with them.

The other factor was distance and coverage that the clients from the nearby health facility and poor coverage have remained the main challenging barrier which was consistent with a study conducted in Southwest Ethiopia on health care seeking behaviours. There were no easily accessible transportation systems and transport infrastructure(34). Some areas did not have transportation that exacerbates the problem. This might also contribute to high child morbidity and mortality from acute malnutrition.

In our study, we had found that the treatment for under-five child acute malnutrition was not arranged in an organized and standard way which had deviance from the national guideline of acute malnutrition treatment(35). As we found in our study, there was no service availability and readiness treatment facility. This might indicate the gaps and loose link hat could not trigger parents to have consistent follow up.

Regarding the quality of care and skilled personnel, though the service of acute malnutrition treatment was delivered; it was a great challenge for the district and an unsolved problem yet. The poor quality of care and the low level of skilled health workers, lack of consistent problem identification and intervention to identified problems to deliver under-five child acute malnutrition treatment service were identified barriers(36). There was a lack of adequate training, nutritional health education and promotion, nutritional counselling based on the GALIDRAA approach to have effective acute malnutrition treatment and for teaching parents on early treatment of under-five child acute malnutrition. There were health workers who did not want to work in under-five child acute malnutrition due to their incompetency to treat the case. There were also critics on the training provision for health workers and their claim was not fair when selecting a health worker to be trained though the training provision was rare and inconsistent. This might be one of the causes for the lack of commitment of health workers and that could lead to poor quality care that enforces parents to delay and stay home.

On the other hand, the service was challenged with supply continuity, mainly under-five child acute malnutrition supplementary foods: F-75, F-100, ReSoMal, Plumy nut, and antibiotic medicines were identified with the insignificant problem from the participants' perspective. However; a one-day meal miss could bring a child under treatment delay in recovery and increased hospitalization. Regarding supplies, there was no incessant supply in the health facilities. This study was identified as a similar challenge to a study conducted in Bangladesh on Challenges and opportunities of integration of community-based management of acute malnutrition into the government health system(36, 37).

The other issue was nutrition counselling and nutritional health education which was missed in the study area was reported as the main challenge to be implemented in the right way of the GALIDRAA approach. Health workers under the unit of under-five child acute malnutrition treatment ward/unit were testified underling the here and there counselling rather than following the right procedure of counselling so as not to miss the necessary message. Nutritional health education was delivered by mainstreaming it with other health issues. Although mainstreaming nutritional health education with other health issues had to increase awareness about the relation between nutritional

problems with other diseases, provision of nutritional health education for the un-segregated audience might not bring successful effective communication and behavioural change. There was also no health promotion on meal preparation demonstration for parents.

As indicated in the study, the sustainability of under-five child acute malnutrition treatment was in-misgiving. Though the issue had a great devotion and it had thought that the issue had given great devotion, it was not true in practical scenario due to incapability to have strong inter-sectoral collaboration, lack of ownership among governmental sectors, poor coverage of the service and emergency and seasonal public health problem events that enforced to change the focus area from under-five child acute malnutrition. This might cause parents to be exposed to poor quality care, poor treatment outcome, and long hospitalization that could trigger them to prefer other healing choices, to decrease their trust in modern care. This might also be one of the causes for their delay from early treatment, lack of behavioural change for malnutrition treatment. The following diagrammatic model indicated the challenges and their consequences interconnectedness (Fig. 3).

4.1. Strengths and Limitations of the study

Although the study was unable to conduct a focus group discussion considering group variation among parents (fathers and mothers), and health workers among focal persons and health workers working with focal persons in the under-five child malnutrition department, it was tried to participate different participants in in-depth and key informant interview with more than one interview/having repeated interview with participants expected to answer questions during analysis that might influence the delay for under-five child acute malnutrition treatment.

Conclusions

In conclusion, delay in under-five child acute malnutrition treatment among parents in lay Gaynet district was visible that needs immediate intervention. The parents with under-five child acute malnutrition did not visit health facility early due to poor awareness, lack of positive perception towards illness behaviours, traditional beliefs, poverty, parents workload, geographical situation, distance, and transportation system, service availability and readiness, poor quality care, lack of supply continuity, lack of nutritional counselling and health education and un-sustainability of intervention for under-five child acute malnutrition were those major barriers that delay parents from early treatment.

There should be a strengthened stock supply management system, need to provide additional ambulances and vehicles, health worker training focusing on nutritional focal persons and even needs to employ nutritional staffs and should improve their monitoring and evaluation system. There should be different strategies designed for monthly nutrition screening at a selected screening village and child growth monitoring and promotion. Updated guidelines for malnutrition management and mainstreaming of nutritional sensitive issues with different sectors to have shared vision in under-five child acute malnutrition early treatment had to be disseminated early. Health promotion and nutritional health education and promotion, meal preparation demonstration, training of health workers had to be strengthened. Health workers had to update themselves and had better be committed to serve and rely on scientific judgment by measuring anthropometric measurements rather than using the visible absence of wasting. Active community participation had to be promoted. Finally, further researches had to be done to investigate the coverage and effectiveness of health education and promotion in the area regarding social behaviour change communications including the strength of monitoring and evaluation systems of projects and programs for acute malnutrition.

treatment and prevention of the problem. It would be good to install nutritional health education and promotion projects in the area.

Abbreviations

AM Acute malnutrition

AMC Acute malnutrition care

AMT Acute malnutrition treatment

AMTS Acute malnutrition treatment service

MUAC Mid Upper Arm Circumference

SAM Severe Acute Malnutrition

MAM Moderate Acute Malnutrition

SFP Supplementary Feeding Program

OTP Outpatient Therapeutic Program

SC Stabilization

UNDAN United Nation Decade of Action on Nutrition

SDG Sustainable Development Program

EDHS Ethiopian Demographic and Health Survey

MEDHS Mini Ethiopian Demographic and Health Survey

GDP Gross Domestic Product

ETB Ethiopian Birr

GMP Growth Monitoring and Promotion

“P” Promotion

CMAM Community Management of Acute Malnutrition

MTC Malnutrition treatment

UNICEF United nation children’s fund

NG Nasogastric

AM Acute malnutrition

CSAE Central Statistical Agency of Ethiopia

WFH Weight for Height

WFL Weight for Length

TSFP Therapeutic Supplementary Feeding Program

IRB Institute of Ethical Review Board

Declarations

Ethical approval and consent to participate

Ethical clearance was obtained from the institutional ethical review board of Addis Ababa University, College of health science, school of public health, and written and informed consent was obtained from each participant during data collection, and confidentiality of the information was secured by omitting personal modifiers in the interview guide.

Consent for publication

Not applicable

Availability of data and materials

A full data set and other materials about this study can be obtained from the corresponding author on reasonable request.

Competing interest

The authors declare that they have no competing interests

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Authors' contribution

HAM developed the project, proposal, manage, and undertook the data collection, analysis, interpretation, and report write up. AB, and MT had made critical comments on the overall paper project review. WW had provided critical comments on the overall project involved in the analysis and result interpretation; MG reviewed literature and developed the questionnaire and performed data analysis and interpretations of the results. All authors read and approved the final manuscript.

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Figures

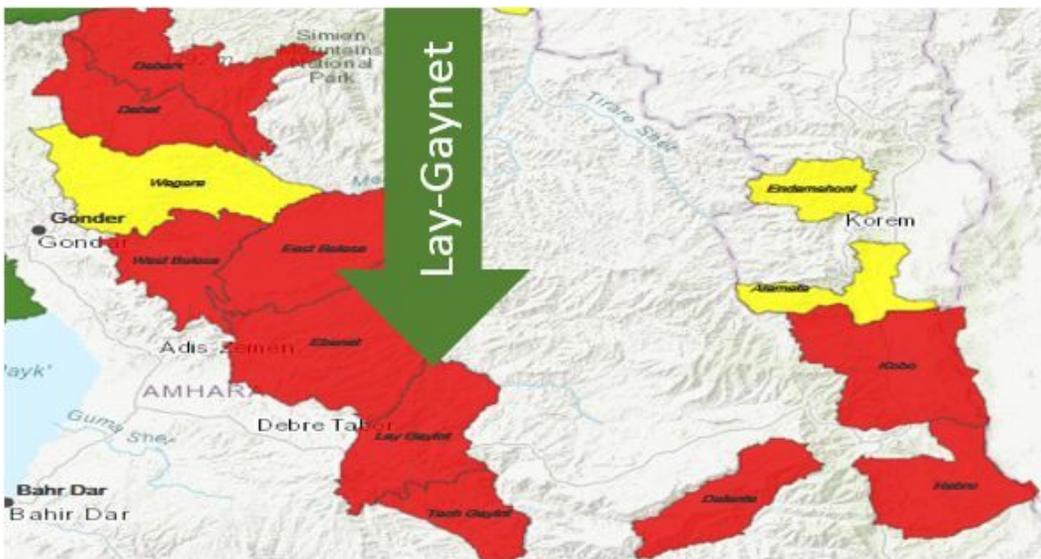


Figure 1

Geographical map of Lay Gaynet, South Gondar Zone, Northwest Ethiopia, 2020 Note: The designations employed and the presentation of the material on this map do not imply the expression of any opinion whatsoever on the part of Research Square concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. This map has been provided by the authors.

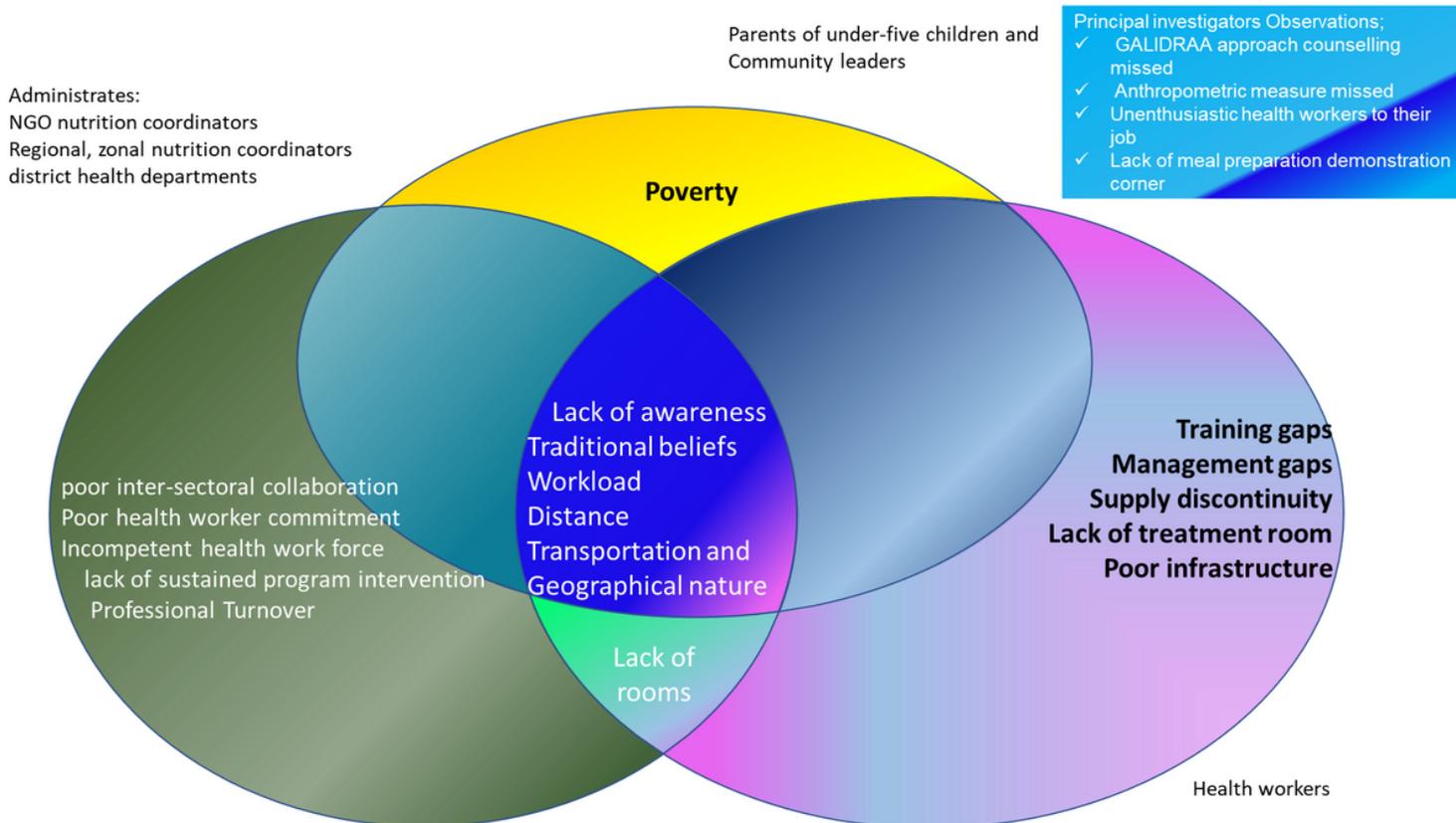


Figure 2

The barriers of under-five child acute malnutrition early treatment in Lay Gaynet, South Gondar, Northwest Ethiopia, 2020.

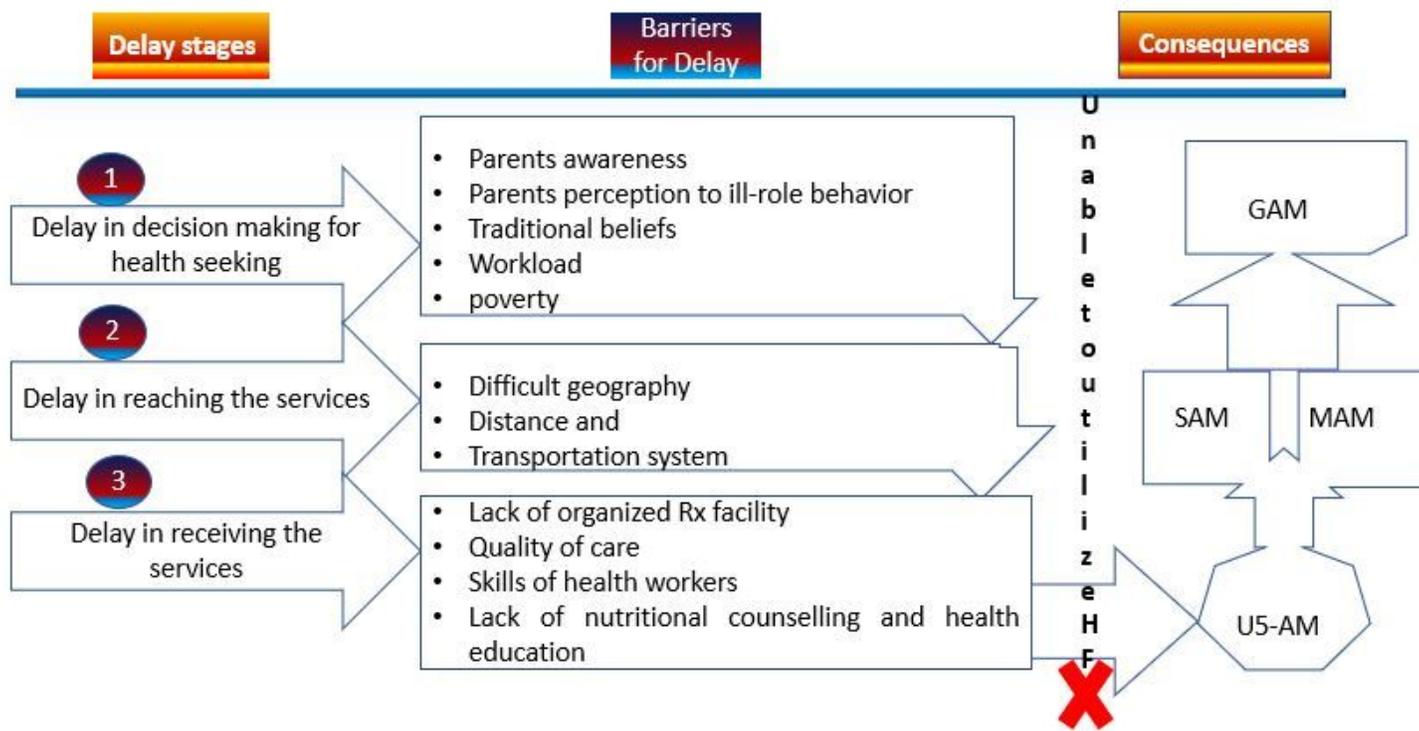


Figure 3

The overall interconnectedness of the problem of under-five children acute malnutrition, Lay Gaynet, Amhara, Northwest Ethiopia, 2020.

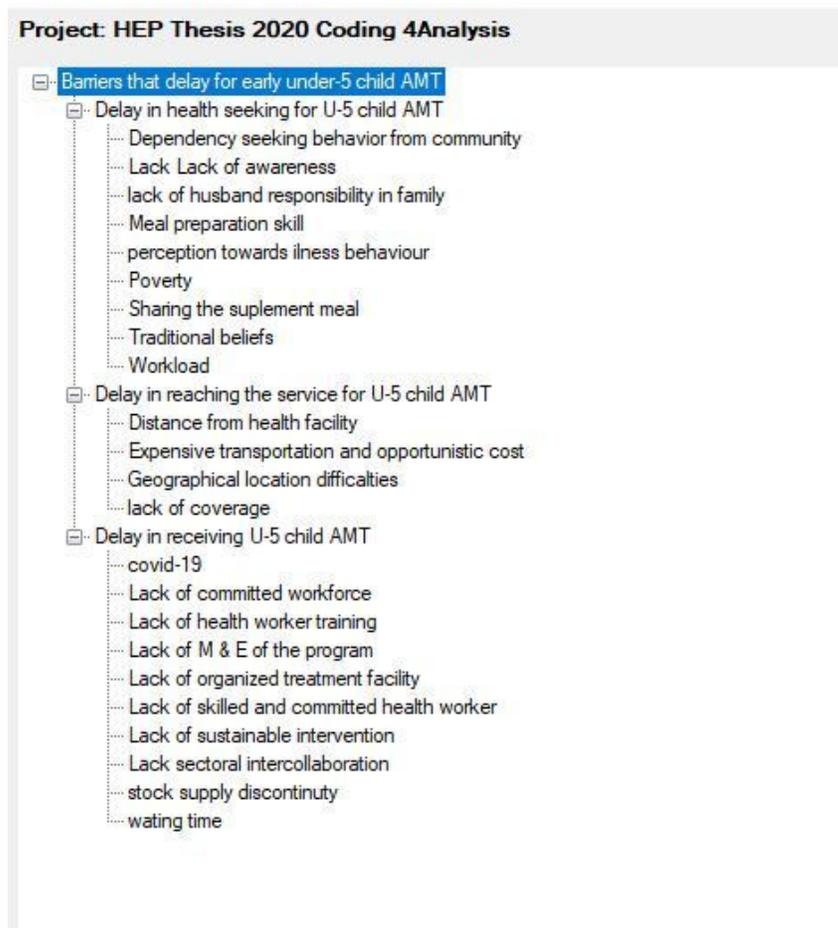


Figure 4

Theme tree of major and minor themes in Lay Gaynet, South Gondar, Northwest Ethiopia, 2020.

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