Barriers of Antenatal Care Service Utilization in Somali Regional State Using Social Ecological Framework, Eastern Ethiopia, Ethiopia: a Qualitative Study

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Abstract

Background: A good Antenatal Care during pregnancy is important to ensure the health of the mother and the healthy development of the fetus. In 2016, at Ethiopian Somali region (43.6 %) of pregnant mothers had an Antenatal Care (ANC) visit at least once during their last pregnancy and only (11.8%) had a history of four or more visits for Antenatal Care, which are the lowest rates among all regions in Ethiopia.

Objective: The objective of the study was to explore the barriers and determine enabling factors affecting Antenatal Care service utilization in Somali Regional state.

Methods: A qualitative exploration was conducted from February 18 to March 11, 2017. A pre-tested semi-structured interview guides, and facility abstractions with checklists were used to collect the data. A total of 31 individual interviews, 12 focus group discussions, and 21 facility abstractions were collected. The population of the region were stratified into three areas based on their settlement characteristics as agro-pastoralist, pastoralist, and urban. Two districts were selected from each category based on their performance. The data was entered, coded, categorized, and analyzed by utilizing Nvivo version 11software. A thematic analysis was conducted using themes that were developed based on the constructs of the socio-ecological model.

Results: According to the study, economic constraints, place of residence, mothers' being lack of awareness, preference of female health care provider, husband's disapproval, lack of acceptance by the community, absence of full ANC services packages related with shortage of manpower, medical supply in majority of the health facilities and lack of perceived benefits from ANC service were the main barriers of ANC service utilization.

Conclusion: Individual, interpersonal, and organizational level factors were the most dominant barriers for ANC service utilization. Therefore, FMOH, regional, zonal and district level health administrators and other stakeholders should design effective IEC, community mobilization and work on supply-related problems to .increase ANC utilization in the region.

Background

It has been estimated that 25% of maternal deaths occur during pregnancy. Between one-third and half of the maternal deaths are due to hypertension related to pre-eclampsia and eclampsia and antepartum hemorrhage, which are directly related to inadequate care during pregnancy (1). Therefore, getting Antenatal care (ANC) from a skilled healthcare provider is important to monitor pregnancy and reduce morbidity and mortality risks for the mother and unborn baby during delivery and the postnatal period (2).

In order to achieve a full, life-saving potential that ANC promises for women and babies, four visits providing essential evidence based interventions – a package often called focused antenatal care – are required. Essential interventions in ANC include identification and management of obstetric

complications and infections including Human Immune Virus (HIV), syphilis, and other Sexually Transmitted Infections (STIs) (1). The risk of neonatal mortality was significantly lower for infants of mothers who availed four or more antenatal visits (3).

Inadequate care during pregnancy breaks a critical link in the continuum of care, affecting both women and babies (1). Ethiopian Demographic and Health Survey (EDHS) 2016 reported that (43.6 %) of pregnant mothers in Ethiopian Somali region had an ANC visit from a skilled provider at least once for their last birth this is much lower than the national average of 62% and only (11.8%) have a history of ANC 4 or more visits , which is the lowest rates among all regions that are found in Ethiopia (2).

Even though inequality in Reproductive Maternal Neonatal and Child Health (RMNCH) service is pervasive; it is more pronounced in developing countries with divers geographic and socio- economic groups. The health and health related experiences of Women, mothers, infants and children from low- and middle-income countries often correlates with underlying demographic, geographic, and socioeconomic characteristics. For all three dimensions of inequality (economic status, educational level, and place of residence) are reflected in most aspects of health status and services indicators. However, the lowest levels of inequalities in terms of health service coverage were reported for antenatal care coverage (at least one visit), followed by antenatal care coverage (at least four visits), and then births attended by skilled health personnel (2,4–11).

Method And Materials

A qualitative exploration study was carried out in Somali region from February 18 to March 11, 2017.The study participants were mothers and male partners from the client perspective /demand/; Maternal and Child Health (MCH) coordinators at regional, zonal and district health office levels, head of health center/hospital, Heath Extension Workers (HEWs), and health care providers in private clinics in the selected districts were included to explore the supply-side barriers for utilization of ANC services.

The region was categorized into three categories based on the settlement of the community as pastoralist (movable community with their livestock), agro-pastoralist (communities who practices agriculture including livestock for economic source), and urban (communities who reside in town and their primary economic source is commerce). From each of the three life styles mentioned above, two districts were selected: one from high and one with low performing district in terms of health coverage indicators.

Using a pretested, semi-structured interview, FGD guides, and facility chart abstraction check list, a total of twelve (12) FGDs were held, 6 among men and women group in the community and 6 among health care providers and health extension workers in a separate group. Also thirty one (31) in-depth or key informant interviews were conducted among mothers, partners, community leaders/religious leaders, health care administrators and providers. Furthermore, 21 health facilities were observed for availability of health care providers, equipments and drugs and others using service availability and readiness

assessment checklist. About 6-12 participants were attended in the FGDs. The number of interviews and discussions were determined based on level of information saturation.

A total of 12 experienced Bachelor and above holder health professional data collectors and three supervisors were deployed for data collection. The data collectors and supervisors were trained on the study protocols and data collection tools. The data collectors were taking notes in parallel with conducting the interviews or FGDs. Both the FGDs and interviews were audio recorded. The supervisors have ensured data collection procedures according to the study protocol and the transcriptions & translations were done correctly. The data collectors at the field, concurrently with the data collection, were transcribed audio-digital recordings into local language & translated into English. The data collectors kept the field notes, reports, questionnaires, and interview recordings.

The data was summarized daily into major pre-determined themes as individual, interpersonal, community, organizational levels in the field so as to determine the level of data saturation. A thematic analysis method under the adapted socio ecologic model framework was done**.** This model helps to understood and conceptualizes individual factors as nested within multiple levels of influence, organized hierarchically. Relationships (with parents/husbands) are most proximal to individuals, followed by community (social supports and norms), and then organizational more broadly (service availability, readiness, and quality, health-care providers and access). The collected data was entered, coded, categorized and analyzed using Nvivo version 11 software for window.

Results

Barriers of ANC service utilization in Somali region

Barriers for the utilization of Antenatal care service in the region include socio-demographic, economic status, cultural believes, past experiences, level of awareness, attitude toward the service, challenges in accessing transportation and shortage of supplies **(Table 1)**.

Demand Side Barriers of ANC Service Utilization

Socio-economic Constraints

The ANC service utilization in low performing pastoralist and Agro-Pastoralist areas of the region were negatively affected by the socio-demographic and economic factors of the respondents. In low performing pastoralist and Agro-Pastoralist areas almost all respondents pointed out that lack of transportation and the associated poor economic status attributed for not visiting the health facilities for ANC services. Even the ANC service provided free of charge in the public health facilities, they are not able to pay for the transportation, accommodation, and other costs.

“Lack of money is one of the main reasons for mothers not to visit the health farcicality for ANC and others health care services.”KII, Health Center Head

"Those who have money can go the health facility because they have money to pay for the service, transportation and other costs." FGD, Mother's, Tuliguled

"Mothers must attend (visit health facility) at least four times for antenatal …, but mothers in this area do not attend at least one visit." FGD, HCP, Kebridahar and another participant said that: *"this (low ANC service utilization) can be due to lack of transportation, and far distance between community residences and health centers." KII, Health center head Degehabour*

Lack of Awareness

The stud was found out that participants were not well aware or informed about the benefits of ANC visits. Majority of the mothers living in rural areas of the region don't have adequate information and awareness's about ANC visits and other maternal and child health services. In addition to this, they have not considered as it is beneficial and they have no intension to use the services at all.

"Majority members the community are living in the rural areas and they are pastoralists. They have difficulties coming to the health centers and health institutions. They don't have full information about maternal and child health (MCH) issues and services that can be rendered at facilities. Mostly, they think that it has no benefit to use those services for them and for their children. Most of them have no intention to use it. Almost all of them have no awareness about MCH program…" KII, District Health Office Head

Clients Preference of Health Care Provider's Gender being Female

Majority of the mothers preferred to get maternal health care services from female health care providers. Mothers who get services from the female health care providers are more comfortable and satisfied with the services they obtained.

"I always prefer to get ANC and other maternal health care services from the female health care provider." IDI, ANC user, Kabridahr and another respondent says*: "…Since I am a woman I prefer to get the maternal health care services from female midwife." IDI, ANC user, Warder*

Lack of Husband support

Not understanding the need for "a healthy" pregnant women to visit a health facility and not wanting to stay at home and care for their children while her absence to visit a health facility are the two most commonly cited reasons for men do not allow their wives to visit health facilities.

"The reason for this is due to an opinion that 'why would I go to the health facility when I am feeling well and healthy?' And when the mothers go for follow-up the husband says, 'why is she going to the health facility and who is going to care for the children while she goes to the health facility?' If the husbands are willing and allow their wives to utilize the RMNCH services, women are ready to utilize the RMNCH services." FGD, HCP, Harshin

"Definitely he (my husband) encourages me to see the health worker and I know a lot about my health and that of my child and also he gives me all the money I need and without him nothing would have been possible."

Lack of Focused ANC Service

In general, mothers who live in region did not get a proper care during ANC visit. This is to mean that the quality of the ANC service rendered by the health facilities when they visited were not optimal enough to identify and manage anticipated obstetric complications. Also, majority of the community have low level of health care seeking behavior, which is observed in the ANC service utilization in the region.

"…most mothers in this area didn't have ANC or optimal care during their ANC visit when they had one…" KII, Gynecologist, Jigjiga

"…members of the community are not coming to a health center in general to get treatment for their conditions or other health related services…. It is very low…. This is also seen in ANC follow up …" KII, District Health Office

The uptake of health education services provided by the facilities is also poor. The community does not give emphasis for the ANC services and related health education which are provided by the health care workers.

"We provide a health education on the ANC, delivery service but they don't care about it." KII, Health center head

Supply Side Barriers for ANC Service Utilization

Lack of Availability of essential Components of focused ANC services

According to the facility abstraction/observation done from the health facilities, almost half of the health posts, health centers, and hospitals which are found in the region are providing ANC services. But the availability and quality of comprehensive focused ANC visit packages vary between and within different health facilities. Out of 7 health posts included in the study, 3 of them did not provide ANC services at all and the rest provide some of the components of ANC services. Furthermore, six health centers were not providing full focused ANC services due to shortage of health care providers. There is no laboratory technician on these health centers and the service is not functional. But almost all focused ANC services were available at the 3 hospitals included in this study (**Table 2**).

Shortage of Supply and Equipment for ANC Service Provision at Health Facilities

Significant proportions of focused ANC components were not being provided at facilities due to shortage of supplies such as medical equipment, medications, and other instruments needed for the ANC services.

"We don't have the essential equipment for the ANC and Delivery services." FGD, HEW, Warder

“The problem of the supply issue is not only restricted to the pastoralist area and low performing areas. The problem was also shared among the high performing area of agro-pastoralist region and also urban areas as while they have equipment they have shortages of drugs. KII, Health center Head

A facility abstraction data indicated that about 10 (48%) of the health facilities did not provide laboratory screening services for HIV, Syphilis, Hemoglobin, and urine for protein/sugar. On the other hand, 11 (52%) of the health facilities did not provide screening services for blood pressure, diabetes, anemia, and symptoms of STI/RTIs for mothers who were attending ANC visit (**Table 3**).

Shortage of Health Care Providers

There is shortage of health care personnel like laboratory technician in the health facilities. Because of this, the available workers are sending back their clients without offering the health services they came seeking. This is more profound especially in the low performing pastoralist areas. Moreover, the few health professionals were moving from rural to the urban setting.

“We don’t have sufficient trained professionals in our health facilities.” FGD, HCP, Kebridahar

“Absence of a lab technician is the main problem for our health centers.” KII, Health Center Head

Lack of Defaulter Tracing Mechanism

To address mothers who discontinued their services in high performing urban areas of the region, health care providers and health extension workers may call the service user by phone, search for her at home, or use the kebele leader as a means to trace her.

“We go to the kebele and find the mothers and children who drop out from the service. If the mother comes for her 1st and 2nd ANC visit, and drops out on the third visit, we inform the kebele administrators to search for her. There is a folder prepared for each of them, then we follow them according to their tracing folder….” IDI, District health office head

Discussion

According to the current study, economic constraints, place of residence, mothers’ lack of awareness, healthcare provider’s gender preference, husband’s disapproval, community perceptions, lack of acceptance by the community members, shortage of necessary equipment and supplies, lack of full ANC service packages in the majority of the health facilities, and shortage of healthcare workers were the main barriers of ANC service utilization. However, mothers’ better awareness, husbands’ support of ANC visit, presence of defaulter tracing mechanisms and horizontal referral system were identified as ANC service utilization enablers in the region.

Several studies have shown that socio-demographic factors affects the utilization of maternal healthcare services (2,5,7,10,12-14). They stated that the place where women live is associated with the utilization of

ANC services. This finding revealed that place of residence has been significantly influence the use of maternal health care services in the Ethiopian Somali region. The people who live in the rural areas were not utilizing the ANC because of low access, long distance to travel between the resident's home and the health facilities, and the pastoralist nature of the community. This is further debilitated by that the community perceived that the pregnant mothers should not travel long distances, even by using a car. The far distance where the care seekers live the more they might not go to the health facilities.

In this study, lack of knowledge and awareness, negative perceptions and acceptance of the ANC services were affecting its utilization. Similarly studies done in West Shoa, South-West Ethiopia, and Nigeria revealed that lack of knowledge and awareness, negative attitude and low acceptance of the services by the clients have a negative effect on ANC service utilization (6,8, 13, 15, 16, 19). This showed that if the individuals have no knowledge or information about the services, they are not expected to have awareness, positive attitude or a higher level of acceptance to the services.

At the community level, this study revealed that community's poor perception of the benefits and lower acceptance of ANC visit in association with poor quality of ANC service in the health facilities were affecting ANC service utilization. In line with this, other studies revealed that socio cultural norms, beliefs about the causes of diseases, women needing spousal consent before receiving care, women receiving care from a male obstetrician as unacceptable were negatively affecting ANC services utilization (1,4,15).

At the organizational level, shortages of supplies and equipment, providing incomplete ANC packages almost at all health facilities, poor health care system due to shortage of health professionals, nonfunctional health facility, the HEWs leaving their health posts, unavailability of ANC Services in some of the health facilities, and dissatisfaction with health facility services appear as a reason of low ANC utilization. These organizational level factors were affecting the quality of the ANC services. Besides this, they have great influence on accessibility, acceptability, and sustainability of ANC service utilization to the community. On the other hand, hospitals which are located in the urban areas have better services for ANC.

Husbands' acceptance of ANC services and support of their wives appears as enabling factors for ANC service utilization. This study documented that women whose husbands supported their health facility visit had higher level of motivation and utilization of ANC services. This result was similar with the study findings in Holeta town Ethiopia and Myanmar which indicated as spouses of husbands who support and accompanied them or approves antenatal visits was increased utilization ANC services (16, 20). On the other hand, Husbands disproval or objection, seeking permission to start and use ANC service by the pregnant women were decreased utilizing ANC services (11,18). This is because women are economically dependent on their husbands and husband's/males decision is highly accepted in the family, so they decided that without their husbands it is difficult to achieve their goals.

Antenatal care service defaulter tracing mechanism which implemented on some districts in the region may give an opportunity to get pregnant mothers again and provide ANC services till they give birth.

Conclusion And Recommendation

The main ANC service utilization barriers were economic constraints, place of residence, lack of awareness, female care provider preference, husband's disapproval, lack of acceptance by the community, lack of perceived benefit and lack of full ANC services packages with shortage of staff, supply in majority of the health facilities. Thus, official organizations should be strengthen health facilities in integration for women empowerment with strong awareness creation and community mobilization program through involving religious and clan leaders, Kebele administrators and other stakeholders to increase the uptake of ANC in the region.

Declarations

Ethics approval and consent to participate

The study was ethically approved by institutional review board of St. Paul's Hospital Millennium Medical College. Permission for data collection was assured from the Regional Health Bureau and District/Woreda health offices. Furthermore, study participants were informed about the study, and reassured about their right to refuse to participate. From each study participants written consent were obtained prior to each interview. Names and other personal information of respondents were not recorded. Any information was/will be kept confidential and only used for this research. During data collection privacy of respondents were kept and it is free to withdrawal from the interviewed at any time.

Consent to publish

Not applicable.

Availability of data and material

The datasets used and analyzed during the study were available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no financial and non-financial competing interests.

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Authors' contributions

AM, AT, SB, AH, ZA and WG conceived and designed the study, and analyzed the data. MM, GM, MS, MT and TG contributed to the data collection, processing and analysis of the study. The manuscript was prepared by all authors. All authors read and approved the final manuscript.

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Abbreviations

ANC Antenatal Care , EDHS Ethiopian Demographic and Health Survey, FGD Focus Group Discussions, FMOH Federal Ministry of Health, HCP Health Care Provider, HEW Health Extension Workers, HIV Human Immune Virus, IDI In-depth Interviews, KII Key informant Interview, MCH Maternal and Child Health, RMNCH Reproductive Maternal Neonatal and Child Health, STI Sexually Transmitted Infections

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Tables

Table 1: Barriers and enabling factors for ANC service utilization in Ethiopian Somali region in 2017

Setting categories	Barriers	Description of the barriers
urban	1. Cultural believes and past experience	1- Health seeking behavior of pregnant mothers were highly affected by their traditional believes and practices experiences.
Pastoralist or Agro-pastoralist	1. Economic constraints 2. place of residence/geographic location 3. Distance from the health facilities 4. Lack of transportation 5. Husband's disapproval of ANC visit 6. poor road infrastructure 1. shortage of supplies at health facilities 1. Frequent interruption of electric power and water supply. 1. shortage of health care providers 2. Health posts provide limited services or not functional	1. Shortage of supplies like medication and other equipment and consumables for ANC were found to be major problems at the health facilities including the health posts. 2. Shortage of drugs which are provided free of charge for the community 3. Health care providers usually opt for not going to pastoralist regions, and there is also high turnover of providers already assigned. This is mostly because of the unsatisfying salary and staff compensation scheme in this extreme working conditions 1. The fact that households are widely dispersed has made outreach programs more difficult for HEWs 1. Limited scope and coverage of ANC service (interms of complete package and quality) provided at the health posts by HEWs has made them think as if it is not beneficial for pregnant women.
Cross-cutting *Issues	1. Clients preference of Health care provider's gender 2. Lack of the ability to provide full package of focused ANC service in the health facilities - Lack of awareness about	1- Privacy is a big issue throughout the region because the community believes as it is forbidden the women to expose private body parts for male health workers. 2- Health posts relatively closer for the community do not provide full package focused of ANC for e.g. screening services for blood pressure, diabetes, anemia, STI/RTIs symptoms, HIV, neither there are other options to get those services in nearby the residences.

ANC services 3. - Lack of awareness was also a barrier throughout low performing urban, pastoralist and agro- pastoralist region

Table 2: Focused ANC Services Provided at Health Facilities (Health Posts, Health Centers, and Hospitals) Observed During Facility Abstraction in Somali Region In 2017

Components focused ANC services	Health post (n=7)	Health centers (n=5)	Hospitals (n=3)	Private clinics (n=6)	Total Count (%)
Weighed & height	2	5	3	3	13 (61.9)
History & Pregnancy Monitoring	4	5	3	4	16 (76.2)
Screening for blood pressure, diabetes, anemia, STI/RTIs symptoms	1	4	3	3	11 (52.4)
Laboratory screening for HIV, Syphilis, Hemoglobin and urine for protein/sugar	0	4	3	4	11 (52.4)
IPT with SP for Malaria (DOT)	3	3	2	2	10 (47.6)
De-worming (mebendazole)	4	4	3	3	14 (66.7)
Immunization – TT	2	5	3	4	14 (66.7)
Counseling on Danger signs, Birth Preparedness, Maternal Nutrition, Family Planning, Exclusive Breast Feeding	3	5	3	4	15 (71.4)
PITC-Group Counseling for HIV testing	1	4	3	4	12 (57.1)
PMTCT Services	0	4	3	4	11 (52.4)
Issuing voucher for ITNs	1	3	0	1	5 (23.8)
HIV/AIDS Care &Treatment Services (Refer to clinician for ARV)	0	1	3	3	7 (33.3)
STI Management- RPR positive, refer to clinician	0	3	3	4	10 (47.6)
Counseling and support to women with disabilities	3	3	2	3	11 (52.4)
Follow up appointment	4	5	3	4	16 (76.2)

Table 3: Availability of Drugs, Supplies and Equipment for ANC at health facilities (health posts, health centers and hospitals) observed during facility abstraction in Ethiopian Somali region in 2017

Drugs, Supplies and Equipment		Health post (n=7)	Health centers (n=5)	Hospitals (n=3)	Private clinics (n=6)	Total Count (%)
Ferrous supplementation	Yes	3	4	3	4	14
	No	4	1	0	2	(66. 7)
						7
						(33.3)
Folic acid tablet supplementation?	Yes	3	4	2	5	14
	No	4	1	1	1	(66. 7)
						7
						(33.3)
HIV kits for HIV testing	Yes	1	4	3	3	11
	No	6	1	0	3	(52.4)
						10
						(47.6)
Syphilis kits for screening at ANC	Yes	0	4	2	5	11
	No	7	1	1	1	(52.4)
						10
						(47.6)
Haemacue for checking Hb	Yes	0	3	2	5	10
	No	7	2	1	1	(47.6)
						11
						(52.4)
Dipstick for urine tests (protein, albumin, sugar)	Yes	1	4	3	5	13
	No	6	1	0	1	(61.9)
						8
						(38.1)
Tetanus vaccination	Yes	2	5	3	3	13
	No	5	0	0	3	(61.9)
						8
						(38.1)
SP for malaria prophylaxis	Yes	0	5	0	4	9
	No	7	0	3	2	(42.9)
						12
						(57.1)
IEC materials on various health topics	Yes	3	4	2	2	11
	No	4	1	1	4	(52.4)
						10
						(47.6)
ANC cards	Yes	3	4	3	3	13
	No	4	1	0	3	(61.9)
						8
						(38.1)

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