

Contributing barriers to Defaulting from Antenatal Care Services in Villages Around Addis Ababa: A Qualitative Study

Zergu Tsegaye

JSI Research and Training Institute

Hailemariam Abawollo (✉ hailemariam_segni@et.jsi.com)

JSI Research and Training Institute

Binyam Desta

JSI Research and Training Institute

Tsega Mamo

JSI Research and Training Institute

Atrie Heyi

JSI Research and Training Institute

Mestawot Mesele

JSI Research and Training Institute

Addisu Lose

JSI Research and Training Institute

Research Article

Keywords: ANC, ANC defaulter, ANC dropout, USAID Transform Primary Health Care

Posted Date: December 30th, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-135450/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Version of Record: A version of this preprint was published at BMC Women's Health on April 7th, 2021.
See the published version at <https://doi.org/10.1186/s12905-021-01290-9>.

Abstract

Background: Problems during pregnancy, childbirth and postpartum are the major contributors to maternal and perinatal morbidity and mortality. Focused antenatal care is an intervention set to provide basic services for pregnant women, to reduce morbidity and mortality related to pregnancy. In Ethiopia, there is a significant antenatal care attendance dropout between the first and fourth visits. The aim of this study is to explore the potential contributing barriers to defaulting from antenatal care services in the country.

Methods: A qualitative research method was used, where 20 in-depth interviews and three focus group discussions were conducted. A qualitative data analysis software, ATLAS.ti 8, was applied.

Results: Low quality antenatal care service which occurs primarily due to shortage of the required drugs, supplies and equipment is a major barrier for sustainable attendance of antenatal care followed by poor care, respect and receptiveness of service providers. Lack and cost of transport as well as partners' approval and support were also claimed to be part of the major barriers. Community culture and previous maternal experiences as well as maternal sociodemographic factors like maternal age at time of pregnancy and educational status of mothers were also reported as barriers to the seeking and completion of antenatal care services.

Conclusions: Both demand and supply side barriers play a significant role in the dropout of antenatal care services. Availing good quality antenatal care services, closer to the community by improving the health workforce and supply chain system is recommended.

Background

Globally, every year, 303,000 women die from preventable causes related to pregnancy and childbirth. Additionally, 2.6 million stillbirths and 2.7 million newborn deaths occur annually. Ninety three percent of these deaths occur in low and lower-middle-income countries. Good-quality antenatal care (ANC) is crucial for the prevention of maternal and newborn deaths and stillbirths. Currently in the world, 86% of pregnant women access at least one ANC with skilled providers during pregnancy and 78% deliver with the assistance of skilled birth attendants (1).

The maternal mortality ratio of Ethiopia is 401/100,000 live births with 14,000 annual maternal deaths, almost all of which are preventable. The most common causes of maternal death in the country are hemorrhage, preeclampsia/eclampsia, sepsis/infection and obstructed labor. The ANC-1 coverage in the country is 74% and ANC-4 + is 43% showing a huge gap (31%) between ANCs one and four (2).

The quality of services rendered in the country during ANC visits was also found to be low as evidenced by low early ANC initiation (20%), (3) and low coverage of essential ANC services like blood pressure measurement, urine and blood tests (55.8%), (1) and iron supplementation (42%) (3).

The proportion of health facilities in the country that possess blood pressure measurement apparatus is 59%; the capacity for syphilis testing is 42%, 27% for HIV testing, 20% for hemoglobin determination, 33% for blood glucose determination, and 46–47% for urine testing; iron supplements and tetanus toxoid vaccines are available in 61% and 65% of facilities, respectively (4).

In the Debremarkos town of north-eastern Ethiopia, the proportion of dropouts from the maternity continuum of care was found to be 32.2%. The major contributing variables associated with the dropouts were having no exposure to media, unplanned pregnancies, and having < 4 ANC follow up (5).

There is paucity of evidence on contributing barriers for defaulting from ANC services in Ethiopia and it is therefore worth looking into the major gaps in ANC in order to devise possible cost-effective and high impact interventions that improve the quality of ANC services and hence avert preventable maternal and neonatal deaths and stillbirths.

Methods

Aim

The aim of this study is to explore the potential contributing barriers for defaulting from ANC services and possible solutions to mitigate those barriers.

Design

A qualitative study design was employed where in depth interviews and focus group discussions were conducted.

Setting and period

The study was conducted in villages surrounding Addis Ababa, the capital city of Ethiopia. These villages are part of a zone (Finfinne special zone) in one of the regions of the country, Oromia region. USAID Transform: Primary Health Care has been operating in the country, including within this zone, since January 2017. Finfinne special zone was selected purposely due to resource issues as it is located close to the capital city where the country office of the Activity is located. Within the zone, the Activity's intervention sites are made up of five woredas, one primary hospital, 21 health centers, 124 health posts, and 133 kebeles. The study was conducted in July 2020.

Characteristics of participants

The study targeted health managers, health workers and health extension workers (HEWs) for the in-depth interviews (IDIs) and community volunteers/health development armies (HDAs) and women had given birth recently (in the past 12 months) and had defaulted from ANC and those who attended at least four ANC visits for the focus group discussions (FGDs) (Fig. 1). All the women who got involved in the study were above 18 years of age.

Sample size and sampling

The zonal health department, one woreda in the zone, two health centers in the selected woreda, and all health posts within catchment of those selected two health centers were purposefully selected based on their high ANC defaulter rates in accordance with recent data. Twenty IDIs were conducted where the participants were a maternal and child health (MCH) focal person in the zone, a MCH coordinator of the woreda, deputy heads + MCH heads + a midwife per the two health centers, and one HEW from each of the health posts. Three FGDs were conducted consisting of six to eight participants per FGD. The three FGD groups were mothers who gave birth within the past 12 months and had at least four ANC visits during the index pregnancy, mothers who gave birth within the past 12 months and had defaulted from ANC during the index pregnancy, and community volunteers/HDAs. The final sample sizes of both IDIs and FGDs were also determined based on level of saturation of the information required.

Materials

An IDI guide was developed and administered to health managers at zone, woreda and service providers at health center and health post levels. FGD guides were developed and two categories of women and HDAs were involved in three separate FGD sessions. Both the IDI and FGD guides are found as supplementary files.

Data collection

Trained data collectors who are Master of Public Health graduates with relevant health backgrounds conducted both the IDIs and FGDs. Two people facilitated each of the IDIs and FGDs. Voice recorders were used during both the IDIs and FGDs and both were conducted using the local language, Afan Oromo. After completion of interviews and discussions, each of the records and other relevant documents were put in a secure and safe place.

Transcription and translation of IDIs and FGDs

Transcription and translation of the IDIs and FGDs were conducted by a consultant, fluent in the local language used to conduct the IDIs and FGDs and with ample experience in transcription and translation of IDIs and FGDs.

Data analysis

Analysis of the study was conducted using content analysis through a qualitative data analysis software. ATLAS.ti 8 software was used to code and categorize the transcription. The first transcripts were used to frame the coding structures. Two research team members independently coded all transcripts then met and agreed on the coding structures and discussed the emerging themes. The results write up was done based on the identified themes.

Ethical consideration

Ethical clearance was granted from the John Snow Incorporated (JSI) institutional review board (IRB), IRB REFERENCE: IRB # 20 – 16 E, and from the Oromia regional health bureau. Each of the IDI and FGD

participants were handed an information sheet to read and sign an informed written consent when they agreed to take part. Codes were used and no identifying names or other ways of identification which may provide a link to the participants was used during the data collection. Voice records are kept locked in a safe place at the country office of the Activity and will be destroyed five years after the completion of the study. We also confirm that all methods were carried out in accordance with relevant guidelines and regulations.

Results

Twenty IDIs and three FGDs were conducted, transcribed, translated and analyzed by creating themes under which findings were categorized based on the objective of the study. The identified contributing barriers for defaulting from ANC are summarized under two themes, demand and supply side barriers.

1. Demand side barriers

Demand side barriers are presented under three major categories: sociodemographic, individual-family-community, and access and geography.

1.1. Sociodemographic barriers

Both IDI and FGD participants iterated some sociodemographic barriers affecting ANC attendance. Of these factors, those with unwanted pregnancies and older age mothers were not willing to attend ANC services expressing that they feel ashamed. One FGD participant said,

“Unwanted pregnancy is one of the barriers to attend ANC because mothers don’t want to expose their secrets to neighbors and health professionals. Hence, they want to stay at home”.

Maternal education was also mentioned several times as a barrier by the participants in both FGDs and IDIs. Participants of FGDs and IDIs stated that the educational status of mothers is one of the barriers in either facilitating or hampering the utilization of ANC services. An FGD participant mother stated,

“Inability to read the card is one of the challenges I faced many times. I tried to remember the appointment as much as possible and asked my children to read it for me. I think this is a problem of many other mothers too”.

Additionally, preference of specific sex of service providers and perceived problems related to the use of technology were reported as barriers. One attendant of an IDI reported,

“Since almost all midwives are females, pregnant women are comfortable using the services, but they are not comfortable with ambulance services as service providers are male”.

Moreover, one participant of an IDI reported,

“Some of the mothers attending ANC services have issues related to the use of technologies like ultrasounds, thinking that they will face problems in using them”.

1.2. Individual, family and community barriers

Participants of IDIs said that community level traditions and cultures are influencing practices of pregnant women significantly. A participant said,

“According to some cultures, pregnant women deliver at their family place, and are forced to move there at third trimester and this could lead to defaulting from ANC”.

Lack of the decision-making capacity of pregnant women to attend health services by themselves is another barrier because they lack the power to decide on the spending of family resources. As ANC service attendance requires transport costs at a minimum, for women unable to make decisions on resources, distance from their health facility was mentioned as one of the barriers to attending ANC. In addition to the costs involved, clients in this assessment also frequently claimed that shortage of transportation facilities was one of the potential barriers for attending ANC services. A mother who participated in one of the FGDs said,

“For me, distance may be one reason. It is difficult for pregnant mothers to attend ANC services due to distance and lack of transport. It would be better if ANC services were given at health posts to minimize this problem”.

Community and pregnant women’s perception of the benefits of ANC services was also one of the barriers mentioned. A participant of an IDI said,

“The community discourages pregnant women by informing them there is no additional benefit from visiting a health center for ANC services”.

Individual and community experiences also influence personal decisions to utilize health services including ANC attendance. A participant of an IDI said,

“Peer pressure from people who didn’t get quality services during their visit influences others not to go for ANC services”.

In addition to that, previous maternal experiences regarding health facility attendance also influence women’s current practices. A participant reported,

“The effect of previous experience also matters; if a mother gave birth to a child without any follow up, she might think that there is no need for ANC services”.

In addition, some of the participants mentioned that if a mother did not experience any problems during her past pregnancy/pregnancies, she is likely to be reluctant to attend ANC services for subsequent

pregnancies.

Personal problems like sickness or death of relatives and responsibilities that involve taking care of family members were also mentioned as barriers.

Poor family support, particularly poor partner support, was mentioned as one of the barriers. Some IDI participants reported that,

“Pressure from partner is one of the major barriers. Husbands may not be happy when their wives visit health centers for ANC services and some husbands are not willing to accompany their wives for some essential services like ANC”.

Mothers were not coming to ANC service as per the schedule, but they used to come to health facilities during market days which causes health workers to be overloaded as many people visit health facilities for different services during these days. In addition, maternal preference of specific health facilities to attend for ANC, language barriers, and preterm labor were mentioned as reasons for not completing the minimum number of ANC visits.

Mothers in the rural parts of the country were overburdened with household chores and lack time to attend ANC services. One health facility staff reported,

“Mothers prefer to take care of their children at home than come for ANC services”.

In addition, women want to get fast services whenever they visit health facilities for different services. This is sometimes not be possible and becomes source of disappointment. One FGD participant reported,

“There are complaints on waiting times to get services because health professionals often come late”.

Some of the health managers enrolled in IDIs informed that some mothers may not know that they are pregnant and that this may be the reason for late initiation of ANC.

1.3. Access and geographic barriers

Over the past couple of decades Ethiopia has significantly improved access to health service through the expansion of health facilities and all-weather roads. But according to some of the participants of this assessment, there are remaining challenges in this regard. A participant from a health center said,

“Some of the ANC service utilizers at our health center are from rural kebeles where they need to cross a river (Awash). This is an obstacle for mothers coming for the services, especially during rainy seasons”.

Additionally, distance of health centers from residential areas was mentioned as a barrier.

The national policy direction is that mothers should attend ANC-1 & 4 at the health center level as there are some services which were lacking at the health post level. However, most of the participants of IDIs

indicated that lack of transport and cost of transport are the major factors affecting the attendance of ANC services. Most of the health managers indicated that,

“Lack or shortage of transportation services and not being able to afford transportation costs were reported by some mothers”.

Mothers who participated in FGDs reported,

“Lack of transportation is a big problem. To solve this problem ANC services and delivery care should be given at health posts in every kebele”.

2. Supply side barriers

Supply side barriers are presented under four major categories: human resource, supply chain, infrastructure and linkage, and health system management and leadership.

2.1. Human resource related barriers

Shortage of the required number and type of service providers at all levels, lack of hospitality and receptiveness, timely service provision, absenteeism from work, lateness of service providers and recurrent maternity leave of midwives were some of the barriers mentioned. These barriers were highly influencing the sustainable utilization of services in facilities. One woman who participated in a FGD said,

“If health professionals want to enhance ANC, they should respect their clients and not only to help a woman finish an ANC service but also motivate others to come and attend ANC”.

Another woman also reported,

“I was forced to interrupt ANC service utilization at the health center due to mistreatment from service providers”.

Pregnant women want to receive services from the same provider during different sessions of ANC visits. Changes of service providers during different ANC visit times was mentioned as a potential reason for dissatisfaction and interruption of the service. A participant of an IDI reported saying,

“Having different service providers attend to a single pregnant woman at her ANC visits is one of the potential reasons for dissatisfaction and interruption as pregnant women are not comfortable to tell their entire health history to different people and this is evident as many of them ask for the person who provided the service initially and will leave if s/he is not around”.

Additionally, events such as vaccination days, campaigns, and emergency management activities which occupy many health workers were also reported as reasons for missing ANC schedules. Some service

providers think that ANC services should start after 16 weeks of gestation.

Additionally, staff assignment in health facilities is usually dependent on professional areas of specialty and training. But sometimes this is not practically applied because of rotations, turnover and duty assignments. Based on the observation of participants, health workers were not willing to consult each other, and this resulted in compromised quality of services. One participant of an IDI recommended,

“There needs be consultation among service providers to improve quality of ANC services”.

Moreover, health workers should know and follow the national ANC provision standards for each of the visits to satisfy their clients. Mothers complained that they visited the health facility, but the service given to them was not of the expected standard. Some of the participants reported that they had received some services while they visited the health facilities but a few of them reported that nothing was done for them during their visits.

Participants reported that health posts were understaffed, which leads to closures of the facility when they are away on duty, and pregnant women missing their ANC schedule becoming disappointed. As per the report of participants,

“Closing of health posts due to house to house visits and campaign by HEWs is common with no one available to provide the services for mothers and children at the health posts in their absence”.

2.2. Supply chain related barriers

Quality of services being provided is affected by infrastructure, supplies, drugs, equipment and service delivery environment. Shortage of the required medical equipment was reported as one of the major barriers to the provision of a full package of ANC services in health facilities. One of the attendants of an IDI reported,

“Sometimes there is a disruption of ANC services when equipment for prevention of mother to child transmission of HIV, hemoglobin, reagents for syphilis tests and hepatitis B and C are out of stock”.

As per the report of health managers who participated in IDIs, there are often shortages in equipment required to provide full package of ANC services in health facilities including blood pressure apparatus and weighing scales. One of the participants mentioned,

“Absence of a full package of ANC services at health facilities creates dissatisfaction and in turn becomes a reason for defaulting”.

Shortage of drugs is also mentioned by one participant, saying,

“There are problems with sustainable supply of iron or folic acid in health facilities and with reporting of the utilization of these drugs”.

Additionally, another FGD participant reported that there are shortages of ANC related drugs saying,

“There is scarcity of ANC related medications. They were prescribed for me and I couldn’t find it in the health center, so I used to buy them from a private pharmacy monthly”.

Proper planning and reporting are the bases of good quality services at each level of the health system, but this is not always practiced. Some participants said,

“The management focuses on reporting with little attention on planning and how to sustainably supply materials needed for essential services”.

2.3. Health facility infrastructures and linkage related barriers

The availability of basic amenities like electricity and water are important to provide a full package of ANC services. Some of the health managers reported lack of electricity and power interruptions as barriers for providing laboratory services during ANC. Additionally, some of the participants said that arrangement of the ANC room and shortage of rooms in health posts are areas of discomfort for mothers to sustainably attend ANC services.

Per the national direction, ANC-1 and 4 should be attended at the health center level as there are no laboratory and other services at the health post level to detect pregnancy related problems as early as possible and provide the necessary care. Despite this, on some occasions, when HEWs refer mothers from the community to health centers, the referral health center does not provide the service and mothers become disappointed and interrupt the service. A HEW said,

“Although most services are supposed to be provided at the health center, because of lack of services there, we receive complaints from pregnant women we have referred”.

2.4. Health system management and leadership related barriers

Based on the three-tier health system of the country, primary hospitals are responsible for providing catchment-based mentoring, supportive supervision and other support to their catchment health centers. In addition, health centers are responsible for providing technical support to their catchment health posts including sending feedback of mothers referred from health posts to health centers for ANC services. Some of the HEWs who participated in IDIs reported,

“Though we refer using a referral form, health centers are not sending the results of the tests they have carried out for pregnant women to our health post for follow up”.

Additionally, some HEWs reported,

“There is no support from health centers”.

Regular supportive supervision is one of the keys to identify gaps in health facilities and take proper actions. The supervision should be supportive with an aim correcting the identified gaps in facilities. It should also be regular and standardized. However, some participants said,

“The lack of regular supportive supervision from zones and woredas to identify and fill gaps is also affecting the quality of ANC services”.

Discussion

The results of this assessment showed that there are demand and supply side barriers influencing attendance of ANC. Demand side barriers that affect the utilization of ANC services by pregnant women include sociodemographic barriers such as age at which the women get pregnant, unwanted pregnancies, individual, family and community related barriers including workload on women, lack of partners' support, no autonomy for women in decision making, and previous individual and community experiences. Additionally, poor access to health facilities, particularly health centers, due to lack of all-weather roads, lack of transport services and cost of transport were mentioned as barriers influencing utilization. The results of a systemic review by Shayesteh Hajizadeh et.al. in rural Bangladesh on factors influencing the use of prenatal care also indicated similar findings (9, 10). Another study conducted by Abdirahman Mohamed et.al. in the Somali region of Ethiopia also indicated that socio-demographic, economic status, cultural believes, past experiences, level of awareness, attitude toward the service, challenges in accessing transportation and shortage of supplies were identified as major barriers for ANC service utilization (11).

Supply side barriers were also mentioned as determinants for the use of ANC services. Some of these are human resource related barriers in which lack of the required number and type of service providers in health facilities results in an appointment for pregnant mothers for another day. On occasions where there are shortages of midwives in health facilities, the overload of tasks forces them to schedule visiting mothers-to-be for another day and this means some of the women may not come back to get an ANC service. Moreover, according to this assessment, health workers' lack of respect and perceptiveness were also among the major barriers for the consistent utilization of ANC services. Additionally, health workers' absenteeism and turnover were some of the issues raised during the in-depth interviews and focus group discussions. Lack of adequate numbers of laboratory technicians in health facilities was also raised repeatedly as a barrier to get the required quality ANC service. A qualitative study conducted in the North West of Ethiopia and in the Somali regional state of Eastern Ethiopia reflected similar results (11, 13).

The findings of this assessment also indicated that shortage of the required drugs, supplies and equipment were other key barriers to delivery of quality ANC services. It was reported that there are shortages of some essential drugs like iron and folic acid in health facilities which leads to the

rescheduling of mothers for another day resulting in disappointment of clients and the possible interruption of the service. Additionally, shortages of the required equipment such as blood pressure apparatus and weighing scales were found to be barriers to providing quality ANC services resulting in disappointment and possible interruptions to the use of ANC services. The bases for the shortages were poor planning on both the parts of managerial and health facility level staff.

This assessment also showed that lack of basic amenities like electricity were a determinant to providing quality ANC service to clients. It has been claimed by most of the participants that health facilities experience shortages in electricity or have frequent power interruptions which is a key barrier for providing laboratory services leading to a referral or rescheduling of an appointment. This leads to dissatisfaction of clients and possible interruption of service utilization. Additionally, per the national direction, HEWs must refer mothers to health centers to attend the first and the fourth ANC services as there are some services missing at the health post level. Despite this, the referral health facilities are sometimes not able to provide the required services which deters clients from attending the facilities and results in the interruption of the services. Clients also complained about the distance of health facilities and lack of access to and cost of transportation to reach the referral health facilities resulting in interruptions of the service. A qualitative study in the Afar regional state and a mixed designed study in Bahir Dar Zuria Woreda have indicated similar findings (12, 14).

An efficient management and provision of support are key elements to providing quality health services. Based on this assessment, the support and linkage between facilities and the management was found to be weak, affecting the timely supply of the required essential supplies, and enhancement of knowledge and skills of service providers. A qualitative study conducted in the Jimma zone in South West of Ethiopia reflected that the linkage between midwives and HEWs were found to be poor because of resource limitations and poor infrastructure (15).

Strengths and Limitations

The strength of the assessment is that it included both FGDs and IDIs to solicit the required detailed information from each level of the health system. About 20 IDIs and three FGDs were conducted to maximize the level of saturation. A qualitative data analysis software was used to enter and analyze the information collected from different levels of the health system.

The assessment is also not without limitation. The fact that it is purely dependent on qualitative information collected from different levels of the health system and was not triangulated with any quantitative data from the health system is a major limitation of the study.

Conclusion

Demand side barriers are age, educational status, wanted or unwanted pregnancy, preference of sex of service providers, perceived problems on use of technology, work load on women, lack of partners'

support, community culture and traditions, perception of the benefits of ANC service, distance to health facilities, and availability and cost of transportation.

Supply side barriers are shortage, lack of hospitality and receptiveness, timely service provision, absenteeism from work, lateness and recurrent maternity leave of service providers; mothers want to receive services from same provider over the different sessions of ANC visits, lack of full package of ANC services, lack or interruption of electric power, shortage of rooms, arrangement of rooms, non-favorable working environments, poor linkage and technical support between the different levels of facilities, and poor consultation among service providers.

Based on the findings of the study, it is recommended:

- To avail full package of ANC services closer to the community through improving the infrastructure, equipment, supplies, drugs, and staffing of health posts.
- To intensify capacity enhancement activities with a focus on motivated, competent and compassionate (MCC) health workforce and make MCC part of the periodic performance evaluation of service providers and monitoring activities including integrated supportive supervisions.
- To deploy the required number and type of service providers in health facilities.
- To strengthen the supply chain system and linkage of facilities with policy level structures so that they identify major gaps and act timely.
- Demand for ANC be created through informing the community on benefits of ANC.

Abbreviations

ANC: Antenatal Care

FGD: Focus Group Discussion

HDA: Health Development Army

HEW: Health Extension Worker

IDI: In-Depth Interview

JSI: John Snow Incorporated

MCC: Motivated Competent Compassionate

MCH: Maternal and Child Health

USAID: United States Agency for International Development

Declarations

Ethics approval and consent to participate:

Ethical clearance was granted from JSI institutional review board, IRB REFERENCE: IRB # 20-16 E and the Oromia regional health bureau. Each of the IDI and FGD participants were handed an information sheet to read and sign an informed written consent when they agreed to participate in the study. Codes were used and no identifying names or other ways of identification which may link to the participants was used during data collection. Voice records are kept locked in a safe place at the country office of the Activity and will be destroyed five years after the completion of the study. We also confirm that all methods were carried out in accordance with relevant guidelines and regulations.

Consent for publication:

Consent for publication is not applicable in this research.

Availability of data and materials:

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

Competing interests:

All the authors declare that they do not have any competing interests.

Funding:

This study was fully funded by USAID as part of the USAID Transform: Primary Health Care Activity in Ethiopia. The funding body had no role in the design, data collection, analysis, interpretation and writing stages of the study undertaking.

Authors' contributions:

ZTT and HSA were involved in the inception, concept note development, data collection, analysis, interpretation, and write up of the manuscript. BFD was involved in the inception, concept note development, and read and commented on the final manuscript. TTM, AFH, MGM and ADL were involved during data collection. All authors have read and approved the manuscript.

Acknowledgements:

The authors would like to acknowledge USAID for funding the study, interviewers and interviewees, FGD participants and facilitators, and Ms Heran Demissie for English language editing.

Authors' information:

ZTT: MPH, technical director at JSI/USAID Transform Primary Health Care.

HSA: MD/OB-GYN, MPH; senior maternal and newborn health advisor at JSI/USAID Transform Primary Health Care.

BFD: PhD, deputy chief of party at JSI/USAID Transform Primary Health Care.

TTM: MPH, maternal and newborn health officer at JSI/USAID Transform Primary Health Care.

AFH: MPH, cluster coordinator at JSI/USAID Transform Primary Health Care.

MGM: MPH, cluster officer at JSI/USAID Transform Primary Health Care.

ADL: MPH, cluster officer at JSI/USAID Transform Primary Health Care.

References

1. Catherine Arsenault et al. Equity in antenatal care quality; an analysis of 91 national household surveys. *The Lancet Global Health* 2018; 6: e 1186-95.
2. Ethiopian mini demographic and health survey report, July 2019.
3. Ethiopian demographic and health survey report, 2016.
4. Ethiopian Service Availability and Readiness Assessment (SARA) report of 2018.
5. Nakachew Sewnet Amare, Bilen Mekonnen Araya, Mengistu Melkamu Asaye. Dropout from maternity continuum of care and associated factors among women in Debre Markos town, Northwest Ethiopia. <https://doi.org/10.1101/620120>.
6. Mengiste Mesfin, James Farrow. Determinants of antenatal care utilization in Arsi Zone, Central Ethiopia. *J. Health Dev.* 1996; 10(3): 171-178.
7. Shegaw Mulu Tarekegn, Leslie Sue Lieberman and Vincentas Giedraitis. Determinants of maternal health service utilization in Ethiopia: analysis of the 2011 Ethiopian Demographic and Health Survey. *BMC Pregnancy and Childbirth* 2014, 14:161.
8. Kidist Birmeta, Yohannes Dibaba and Desalegn Woldeyohannes. Determinants of maternal health care utilization in Holeta town, central Ethiopia. *BMC Health Services Research* 2013, 13:256.
9. Hajizadeh S, Ramezani Tehrani F, Simbar M, Farzadfar F. Factors Influencing the Use of Prenatal Care: A Systematic Review. *Journal of Midwifery and Reproductive Health.* 2016; 4(1): 544-557.

10. Tekelab T, Chojenta C, Smith R, Loxton D (2019) Factors affecting utilization of antenatal care in Ethiopia: A systematic review and meta-analysis. PLoS ONE 14(4): e0214848. <https://doi.org/10.1371/journal.pone.0214848>
11. Abdurrahman Mohammed et al. Barriers of Antenatal Care Service Utilization in Somali Regional State Using Social Ecological Framework, Eastern Ethiopia, Ethiopia: a Qualitative Study (Under review at *BMC Pregnancy and Childbirth*).
12. Ruth Jackson and Assefa Hailemariam. The Role of Health Extension Workers in Linking Pregnant Women With Health Facilities for Delivery in Rural and Pastoralist Areas of Ethiopia. *Ethiop J Health Sci*. Vol 26, No 5 September 2016.
13. Biruhtesfa Bekele Shiferaw and Lebitsi Maud Modiba. Why do women not use skilled birth attendance service? An explorative qualitative study in the north west Ethiopia. *BMC Pregnancy and Childbirth* 20 (1): 633.
14. Yibeltal Alemu Bekele, Tadesse Ejigu Tafere, Amanu Aragaw Emiru, Henok Biresaw Netsere. Determinants of antenatal care dropout among mothers who gave birth in the last six months in BAHIR Dar ZURIA WOREDA community; mixed designs. September 2020. *BMC Health Services Research* 20 (1):846.
15. Nicole Bergen et al. Promoting and delivering antenatal care in rural Jimma Zone, Ethiopia: a qualitative analysis of midwives' perceptions. October 2019. *BMC Health Services Research* 19 (1).

Figures

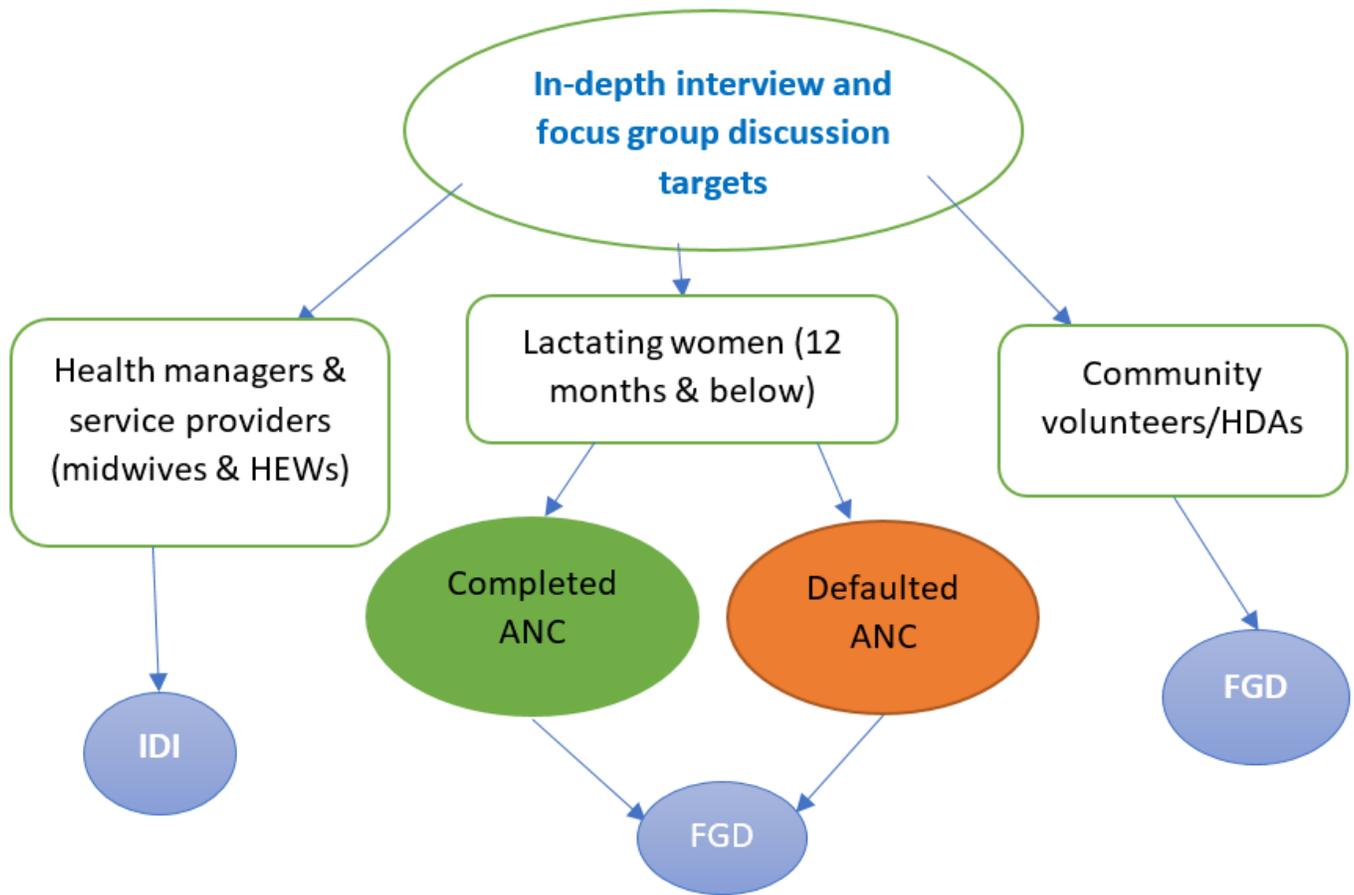


Figure 1

Targets for IDIs and FGDs

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [IDlandFGDguides.docx](#)