QUALITY OF INSTITUTIONAL DELIVERY CARE SERVICES AT PUBLIC HEALTH FACILITIES IN NORTH-WEST ETHIOPIA

by

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DECLARATION

I declare that **QUALITY OF INSTITUTIONAL DELIVERY CARE SERVICES AT PUBLIC HEALTH FACILITIES IN NORTH-WEST ETHIOPIA** is my own work and that all the sources that I have used or quoted have been indicated and acknowleged by means of complete references and that this work has not been submitted before for any other degree at any other institution .

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Signiture  Date August 26, 2021

ELENI ADMASSU MERSHA

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ABSTRACT

Background: As demonstrated by the inadequate provision of quality childbirth care, the contribution of quality delivery care to the use of women's services in Ethiopia is very limited. The goal of this research was to analyse the quality of childbirth care at the public hospitals in Ethiopia, including the structure, process and outcome dimension based on the Donabedian quality framework and to propose client centre guidelines to enhance quality of childbirth care service in Ethiopia.

Method:-The research employed a convergent parallel mixed-method design, collected data simultaneously though the data were analysed separately. To obtain data from 192 healthcare professionals and 793 mothers who delivered in the selected hospitals, the data is collected using standardised questionnaire and exit interviews. In addition, an interview guide was used to perform in-depth interviews to examine the experience of mothers, the healthcare providers, and attendants.

Statistical Package for the Social Sciences [SPSS] version 23 was used to analyze the data. A logistic regression and hierarchical logistic regression model were used. An open version of Code 3.6.2.0 was used for qualitative data analysis. Using a thematic research approach, qualitative data were analysed by creating themes and categories. Finally, based on the key findings of the report, the literature review, the ideas of experts and the observation of the researcher, the guideline was developed.

Result: - Overall, only one (12.5 %) hospital out of eight hospitals provided good quality of care by achieving 75% and above in the three quality measurement components. While in any of the three quality components, 3 (37.5 %) hospitals were not reached. In addition, 4(50 %) of eight hospitals achieved one (1/3) of the three quality components. The level of input was higher than the other elements of quality. Provider's work experience and hospital type have a significant association for process quality components. Maternal education, income, transport ANC visit and process quality have a significant association for maternal satisfaction. These quantitative findings are supported by in-idepth interviews. Lack of working experience and service given by students in referral hospitals are major barriers to deliver quality childbirth care services.

Conclusion: - the overall quality of institutional delivery service was poor especially referral hospitals. Therefore, maternal and child health programs should be targeted and institutional delivery service should be implemented based on the standards.

Keywords: attendants; childbirth; Donabedian; experience; guidelines; hospitals; mothers; perspective; quality of delivery care; skilled provider.

DEDICATION

I am infinitely grateful first and foremost to God Almighty.

This Research work is dedicated to my mother Ethiopia Wondem and my husband Mola Fetene who encouraged me and his enormous patience and care in those working days. This research work is also dedicated to all women who need our care secondary to labour and delivery. I pray to my God to put their soul in peace.

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ABBREVIATIONS

AOR	Adjusted Odds Ration
BEMONC	Basic Emergency Obstetric and Newborn Care
CEMONC	Comprehensive Emergency Obstetric and Newborn Care
CS	Caesarean Section
CSA	Central Statistics Agency
EDHS	Ethiopian Demographic Health Survey
EmOC	Emergency Obstetric Care
FMoH	Federal Ministry of Health
Hct	Hematocrit
HI	Health Institution
HMIS	Health management information system
ID	Institutional Delivery
MDG	Millennium Development Goal
MMR	Maternal Mortality Rate
Mnh	Number of mothers at maternity word in selected hospital
OR	Odds Ration
PCA	Principal Component Analysis
PMTCT	Prevention of mother-to-child transmission
Rh	Rhesus factor
SBA	Skilled Birth Attendant
Spnh	Number of skilled people at maternity word in selected hospital
TTC	Tetracycline
UNDP	United Nations Development Program
UNICEF	United Nation Children Fund
UNISA	University of South Africa
USAID	United State of America aide
WBC	White blood Cell
WHO	World Health Organization

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CHAPTER ONE

ORIENTATION OF THE STUDY

1.1 Introduction

This study examined the overall quality of institutional delivery service by combining input, process, and output quality domains at the facility level based on the Donabedian quality guideline model (Berwick & Fox 2016:237). The guideline indicates that the three quality components are essential to evaluate the quality of institutional delivery service and mandates further improvement for maternal and child health. Most of the available studies focused largely on the output components of quality /client satisfaction (Bitew et al 2015:1, Amdemichael et al 2014:1), and very few studies tried to assess the quality of delivery services using all the three components of the Donabedian model (Fisseha et al. 2017). Moreover, these studies did not assess the influence of structure and process towards maternal satisfaction even if nowadays there has been momentum in improving quality sexual and reproductive health service in Ethiopia (Munea et al. 2020:1). Quality care is crucial to improve health outcomes and to reduce preventable mortality and morbidity among women and their newborns during intrapartum care (Brizuela et al 2019: e624). Since the quality of care has the likely hood of influencing effective utilisation and compliance with interventions (Nwaeze et al 2013:22, Munea et al 2020:1) which is the main issue that stimulated the researcher's interest to investigate this topic.

This chapter provides an overview of the entire thesis report and introduction of the study, starting from the background of the problem, statement of the problems, the purpose, objective, and significance of the study. The foundation of the study and methodology are explained briefly. However, detailed information to be discussed under methodology is in chapter 3. Additionally, in this chapter conceptual framework, the definition of key concepts, scope of the study, structure of the thesis, and conclusion had been discussed.

1.2 Background information

In the past two decades, the national and international intensive global efforts have led to increased coverage of maternal health services, including the poor resource settings (WHO 2016:1; Kanyangarara et al 2017:2). Yet, improvement in maternal and child health outcomes has been limited. The mismatch between burden and coverage indicates the presence of a crucial gap in quality of care in the health facility (WHO 2014:1; Koblinsky et al 2016:1). Globally, maternal death is unacceptably high, with each year, 303,000 women dying from complications related to pregnancy and childbirth (Smith & Rodriguez 2015: 148). About 99% of these deaths are in the developing countries (WHO, 2015:16; Bongaarts, 2016:726). Almost 66% of the maternal deaths occur in sub-Saharan Africa alone making maternal mortality a huge disparity between developed and developing countries (WHO, 2015:16). The WHO statistics indicate that MMRs are 29 times higher in low-income countries than in high-income countries (WHO 2019:7). Since, fertility rates are higher in resource-poor settings (WHO 2015:18) and also the risks of dying in labour greater, one woman out of 41 dies from maternal causes (WHO 2019:7). One of the reasons for this huge number of maternal deaths in low-income courtiers is the lack of access to essential health services owing to greater shortages of healthcare professionals and healthcare budget (WHO, 2019:4).

Ethiopia is one of the countries that have the highest MMRs in the world which is estimated to be 673,676 and 412 per 100,000 live births in 2005, 2011, and 2016 EDHS respectively (CSA&ICF 2016:252), secondary to obstetric complications (Mekonnen et al 2018:225; Geleto et al 2020:1; Berhan et al 2014:15). Even if most of obstetric complication that causes of maternal death are preventable and treatable, the main contributing factors to this death are low facility delivery, lack of emergency obstetric service at the facility, and inefficient referral systems for obstetric emergency (Austin et al 2015:2; Sadik et al 2019:2; Sara et al 2019:1). The government established different long and short-term strategies to alleviate these problems such as establish a health extension program to create awareness of the community and improve demand of the mother for institutional delivery service, accessing health facilities by establishing many health facilities, allocating skilled healthcare professionals, and developing a training guideline for selected obstetric topics ,with the aim of guiding health care providers became capable of managing obstetric complication in order to decrease need of referral and improve outcomes of both mother and newborn (Dao,

B., 2012:1 ;WHO 2017:6, Assefa et al 2017:4). Moreover, accessing free ambulance services in the health center (Godefay et al 2016:1) is practiced. However, there are still poor-quality delivery services that act as the main influencing factors of low institutional delivery service (Roro et al 2014:1; Mirkuzie et al 2014:1; Kea et al 2018:1).

Generally, reduction of maternal and perinatal mortality depends on improved quality obstetric services particularly during labour, delivery, and the immediate postpartum period. In sub-Saharan Africa and Asia countries, the biggest burden of maternal death occurred during the intrapartum and postpartum period within 24 hours (Ahmed et al 2018: e1302) and also in Ethiopia (Legese et al 2017:3; Tessema et al 2017:1). Access to quality emergency obstetrics care (EmOC) is fundamental to reducing maternal and newborn deaths and is a possible way of achieving the target of the fifth Sustainable Development Goal (SDG) (Wilunda. et al. 2015; Hago et al 2014). However, delays in access to and the provision of poor quality EmOC can challenge women's confidence in the health system and discourage them from seeking facility-based care (Austin et al. 2015). This indicates that institutional delivery care services are closely connected with quality care services (Gebrehiwot et al 2014:1; Actis Danna et al. 2020:5).

1.2.1 Institutional delivery

Institutional delivery service is one of the keys and a proven intervention to reduce maternal mortality and morbidity (Yarinbab et al 2018:1; Yoseph et al 2020:1). However, as many studies indicated that in Ethiopia, there are low institutional delivery care services, even if the government empowers facilities to provide delivery care service to the women (Adinew and Assefa 2017:1; Berelie et al. 2020:1; Habte & Demissie 2015:1). According to the 2016 Ethiopian Demographic Health Survey (EDHS), the proportion of institutional delivery in Ethiopia is very low 26% whereas home delivery is 73% (EPHI &ICF 2016:137). Owing to this fact, in low- income countries, the risk of dying from maternal related causes is high when compared to high-income countries. For example, in sub-Saharan Africa, the lifetime risk of maternal death was 1 in 37, compared with 1 in 7800 in Australia and New Zealand (WHO2019:2; Bekuma et al 2020:1). Based on the above studies, the literature confirmed that MMR improvements are related to coverage of maternal healthcare like antenatal care (ANC), facility delivery and skilled birth attendance (Kassebaum et al 2016:1796).

Even if institutional delivery service utilization is a key strategy and intervention for preventing maternal death and improving maternal health, good quality care is the main influencing factor for mothers are likely to return for the services and recommend services for others since the timely provision of quality EmOC remains a significant challenge for reducing maternal mortality and improving maternal health outcome (EPHI &ICF 2014:54; Austin et al 2015:1). A systematic review synthesis qualitative study in low and middle-income courtiers showed that perception of the quality of care is a key barrier for facility- based childbirth care (Bohren et al 2014:1).

Even if Ethiopia has invested in quality improvement for more than a decade (Canavan et al 2017:1) by developing different strategy including the assigned quality team in all health facilities both private and public sectors (FMOH 2016:4), still quality is challenging and one of the critical bottlenecks for the uptake of institutional delivery care service in Ethiopia (CSA and ICF 2016; Ibrahim et al 2018:1-4; Vellakkal et al 2017:60) which indicates that quality of care has a stronger effect on using institutional delivery service (Agha &Williams, 2016:330). As many studies showed that quality of institutional delivery care services is poor in Ethiopia especially in the hospital associated with both technical and non-technical aspect of care. Technical care includes appropriate use of the partograph, and nontechnical care includes like prohibited attendants, unfriendly care such as disrespect, abuse during childbirth (Shiferaw et al. 2017:1; Fisseha et al 2019:1; Austin et al 2015:1; Adinew & Assefa 2017:1).

Therefore, the researcher motivated to conduct a study on quality of institutional delivery care services to develop client-centered guidelines to improve the quality of institutional delivery service and utilization. This is because one of the objectives of this study was an exploration of the clients' views and perspectives to get factual data on what mothers consider as important and mandatory in quality improvements to develop client centre guidelines.

1.2.2 Quality of institutional delivery

Even though there is no universally accepted definition of quality of care, currently the composite nature of quality is acknowledged. The Institute of Medicine identifies the six elements of effectiveness, safety, timeliness, efficiency, equity, and responsiveness to the preferences, needs, and values of mothers and their families as individuals and populations (WHO 2006:9; Institute of Medicine. 2001:3). In contrast, in the context of

maternal health, quality definition incorporated the concept of both effective and timely access of reproductive health rights (Austin et al 2014:3). There is also adequate evidence in the literature to suggest that within the sphere of quality of services, factors such as technical competence and interactive skills of healthcare professionals, physical environment, availability of resource like medicines at the point of service delivery is very important to measure the quality of healthcare service (Kieft et al 2014:1; Svirydzenka et al 2017:1; Mekonnen et al 2017:2). All these indicate a full understanding of the concept of quality and the resources influencing healthcare services quality is needed to improve healthcare services quality.

Moreover, Donabedian (2005) defines the quality of care uniquely and comprehensively. Quality of care is the degree to which maternal health service for individual and populations increase the likelihood of timely and appropriate treatment to achieve desired outcomes that are both consistent with current professional standards and uphold basic reproductive rights (Kieny et al 2018:28; Mosadeghrad 2014:211; Donabedian 2005:694). According to the Institute of Medicine, quality care is comprehensive, and encompasses three key components of quality: clinical (safe and effective), interpersonal (patient-centered) and contextual (timely, efficient, and equitable) (Beattie et al 2013:297). In this study, quality refers the provision of service based on the existing national standards and maternal satisfaction according to Donabedian quality definition quality measure based on the standards (Eldar 2003:655). To make the quality of care more meaningful when assessing should be done in two ways which are quality of provision of care within the institution and care as experienced by users (Hulton et al 200:9). To meet the above assessment, Donabedian quality model with three dimensions which are structure-process-outcome should be done. Whereas structure includes the physical environment that is convenient for providing quality care, process refers to (client-provider interaction) / provider professional competence based on the standards while giving a service and skill of communication with clients, and outcome measures maternal satisfaction towards the service (Berwick and Fox 2016:240; Ibn El Haj et al 2013:17; Ameh et al 2017:1). This indicates that the three components of quality measure are interlinked with each other as good structure should promote good process and the good process should promote good outcome (Donabedian 2005:692; Ameh et al 2017:1).

1.2.2.1 Importance of quality of institutional delivery

High-quality obstetric delivery in a health facility reduces maternal and pre-natal morbidity and mortality (Bohren et al 2014:1; Koblinsky et al 2016:1; Lindtjorn et al 2017:1) since most maternal deaths and obstetric complications cluster occur unpredictably around the time of delivery as the cause of maternal death indicated (Tessema et al 2017:3; Sageer et al. 2019:1; Tesfaye et al 2018:1). World Health Organization (WHO) envisions “every pregnant woman and newborn to receive quality care throughout the pregnancy, childbirth and postnatal period. (WHO 2016:5; WHO 2016:1) since the human right to health is meaningless without good quality care because health systems cannot improve health without quality (Kruk et al 2018: e1196). Even if skilled attendance at birth remains the most important intervention in reducing maternal mortality because the absence quality does not reduce maternal mortality (Gabrysch et al 2019: e1074) since poor quality care restricts health- seeking behaviours of the mother (Adinew & Assefa 2017: 1; Miller et al 2016:1; Anselmi et al 2015;1). Among the key barriers to facility-based delivery, poor quality care is the one (Shah et al 2017:1; Bohren et al 2014:1) because quality is an important factor, responsible for declining utilisation rates of public facility healthcare (Rahman et al. 2013:1). Based on this, Ethiopia's healthcare strategy gives attention to quality service (Tilahun et al 2014:2) since quality of care is the most powerful predictor of institutional delivery. Women who receive better quality of ANC are much more likely to deliver in a health facility (Agha & Williams 2016:1; Tafere et al 2018:1). In general, quality of health service is critical to achieving health coverage since utilisation depends on its ability to provide quality service to all people (WHO2018:5; Agha &Williams 2016:1).

1.3 Statement of the research problem

Even though Institutional delivery is the key intervention in reducing maternal mortality and morbidity, the uptake of the service has remained low (Hagos et al 2014:1). Recent data show that the skilled birth attendant/ attendance at birth (SBA) rate is very low in many settings, especially in sub-Saharan African and South Asian countries (Hagos et al 2014). According to Unicef 2015 estimation, facility-based delivery rates were low in several regions, including 51% in sub-Saharan Africa, 69% in South Asia, and 49% in Eastern and South Africa including in the least developed countries, facility-based delivery rates in 2015 average 49% (Watkins 2016:149). In Ethiopia, the institutional delivery rate is very low and also there are a

huge healthcare problem and a major concern for a country striving to attain Millennium Development Goals target (MDG) 5 to reduce maternal mortality by 75% by 2015. Estimations indicate that around 15% of births in Ethiopia occur in health facilities, which mean only 26%, are attended by skilled personnel (EPHI &ICF 2016:133).

To achieve the ambition of Sustainable Development Goal (SDG) 3.1 targets reducing the global maternal mortality ratio less than70 per 100,00 live birth by the year 2030, with no country having MMR of more than twice the global average (WHO 2016;Hodin et al 2016:2). Therefore, Maternal Mortality Rates (MMR) will have to decrease at a much faster rate, especially in sub-Saharan Africa including Ethiopia. Even-though there is significant decrease of MMR in Ethiopia. According to 2016 Ethiopian Demographic and Health Survey (EDHS) estimated an MMR of 412 maternal deaths per 100,000 live births, from the 2005 EDHS estimates of 673 and EDHs 2011 676 (EPHI &ICF2016:46).

Maternal and neonatal mortality remains high in low and middle-income countries, with poor quality of intrapartum care as a barrier to further progress (Canavan et al 2017:473). Globally, 303 000 women died because of pregnancy and childbirth-related complications in 2015. Approximately 99% in developing regions, with sub-Saharan Africa (SSA) countries alone account for roughly 66% owing to preventable cause (WHO 2015:2; Alkema et al 2018:464; Tuncalp et al 2015:1045). Ethiopia has one of the highest maternal mortality rates in the world (Hagos et al 2014:1).

There are proven interventions to reduce maternal mortality such as skilled birth attendants at delivery, timely emergency obstetric and newborn care, and postnatal care (Otolorin et al 2015:1). Besides, improving at the healthcare professional and health system level is important to reduce maternal mortality at the facility level ((WHO 2019: 46) since accessing utilisation alone is not sufficient to reduce maternal mortality. Still there is a higher proportion of maternal death occurring in the health facility with avoidable maternal and prenatal mortality and morbidity secondary to poor quality of care (Tuncalp et al 2015:1045; Kumbani, et al 2013:5). Therefore, timely, high-quality care is essential to support the progress of women and children health (Lindtjørn et al 2017:2; Bryce et al 2013:6). Even if the Ethiopian Federal Ministry of Health tries to improve the hospital-based labour and delivery care as a key priority (Canavan et al 2017:473). The provision at health facilities limits pregnant women to access

skilled birth attendance secondary to poor quality care in the facility (Yaya et al 2018:1; Adinew et al 2018:1).

1.4 Aim/Purpose of the study

1.4.1 Purpose of the research

The purpose of this study was to develop client-centered practical delivery guideline to improve quality of institutional delivery care services at public health facilities in north-west Ethiopia. Such guidelines would also address increasing the utilization of facility birth.

1.4.2 Objectives of the research

To achieve the purpose of this study, the objectives are as follows:

- To describe the quality of delivery care services at public health facilities in North-west Ethiopia, including dimensions of the structure, process, and outcome.
- To explore and describe participants perspectives regarding of quality delivery care services in public health facilities in North-West Ethiopia
- To determine maternal satisfaction of the delivery care service in public health facilities in North-west Ethiopia
- To Identify factors associated with process and maternal satisfaction dimension of quality delivery care services in public health facilities in North-west Ethiopia .
- Develop practical guideline for the provision of client centered quality delivery care service in public health facilities in North west-Ethiopia

1.4.3 Research questions

- How its quality of delivery care service at public health facilities in north-west Ethiopia in terms of structure, process, and outcomes.
- What are the experiences of women regarding quality delivery care service in public health facilities in North-west Ethiopia

- What are the level of maternal satisfaction on delivery care service in public health facilities in North-west Ethiopia?
- What are the factors that influence process and maternal satisfaction dimension of quality delivery care service in public health facilities in North-west Ethiopia?
- How to develop practical guideline and its scope for the provision of client centered quality delivery care service in public health facilities in North-west Ethiopia

1.5 Significance of the study

The high number of maternal deaths in some developing countries including Ethiopia reflects poor access to quality delivery care services, even if it was possible to prevent death with good quality child birth care in the health facility. Even though quality delivery care service is essential for further improvement of maternal and child health outcome and its utilization, the overall quality of delivery service is not well studied in Ethiopia particularly in the study area. Most of the existing studies focused to assess only the output components of quality /client satisfaction.

On top of this, this study investigated the status of facility quality delivery care services by using the overall quality components based on the Donabedian quality of care model. The model clearly indicated three quality components that consider input (infrastructure, supply, and human resources), process (adherence to standard care during intrapartum and immediate postpartum periods), and output (satisfaction of mothers and utilisation of emergency obstetric and newborn care (EmONC).

Therefore, this study describes and gives a full picture of quality of delivery care services at public health facilities in North West Ethiopia, including the determinant factors of quality delivery service. Moreover, this study used mixed method study that have abele to get enough information about the level of facility provision of quality delivery care service by involving mothers and attendants expressing their views and experience on quality of delivery care service while developing a guideline may help to make more client-centered.

There for, the finding of this study added to the existing body of knowledge on improving quality of delivery care service provision and understand the mother perception on quality delivery care service in Ethiopian public health facilities. The findings of this study help to developing a guideline. The guideline developed in this study will guide health professional to give client centered quality delivery care service and improve facility delivery care utilization. In addition, this guideline supports and gives a clue for police makers formulating health care services policies and strategies to make client centered to improve the quality and utilization of delivery care services in the facilities. Therefore, the Ethiopian federal minister of health, Amhara regional health bureau and health processional should utilize the guideline.

Moreover, researchers can explore more about the quality of facility delivery services at public health hospitals in North West, Ethiopia.

1.6 Foundation of the study

1.6.1 Meta-theoretical assumptions

Meta-theory is a study of theory to be precise; those underlining assumptions which shapes particular theoretical perspectives including the development of overarching combinations of theory, as well as the development and application of theorems for analysis that reveal underlying assumptions about theory and theorizing" (Wallis 2010:116).

Meta-theory is a critical exploration of the theoretical frameworks or lenses that have provided direction to research and to researchers, in the choice of research design and methods. There are various types of meta-theories based on the different paradigms (Musa 2013:43; Wallis 2010:118).

1.6.2 Paradigm

A paradigm is a way of describing a world view by philosophical way of thinking about the nature of social reality (Musa 2013:41). It constitutes the abstract belief and principles that shape how the researcher sees the world and how she/he interprets and act within the world (Kivunja & Kuyini, 2017:26). A paradigm is essentially a world view and a whole framework of beliefs, values and methods within which research takes place (Lincoln & Denzin 2005:22)

and it speaks about researcher's philosophical views and assumption which decides ontology, epistemology, and methodology (Tuli 2010:99). Therefore, paradigm helps the researcher to grasp a clear picture of the world (Mackenzie & Knipe, 2006:2). For this study I have used pragmatist philosophical assumption to assess the quality childbirth care to enable the researcher to understand both the standards and mothers' view of quality childbirth care in order to develop client centre guideline. Since quality is multi-dimensional nature and describe from different perspectives (Larson et al 2019:563).

1.6.2.1 Pragmatism

Pragmatism is a type of paradigm mostly associated with mixed method research since it offers an 'umbrella' paradigm allowing the convergence or combination of quantitative and qualitative methods (Creswell et al 2014:39-40). Pragmatism requires the research methods and data to articulate the research question and to provide an important result (Houghton et al. 2012). Therefore, instead of questioning ontology and epistemology, they emphasise research philosophy as a continuum rather than an option that stands in opposite positions (Wahyuni 2012:71).

Pragmatism postulates that objectivist and subjectivist perspectives are not mutually exclusive. Hence, a mixture of ontology, epistemology, and axiology is acceptable to approach and understand social phenomena (Wahyuni 2012:71). Pragmatist researchers are inclined to working with both quantitative and qualitative data because it enables them to better understand social reality (Hall 2013:4).

1.6.3 Philosophical views and assumptions

There are various assumptions and views about the existence and nature of reality (ontology) and how these realities are investigated and known (epistemology) (Creswell, 2013 & Creswell, 2014:27). The research questions help to determine which research design best fits the research purpose. Furthermore, the research design in turn determines which assumptions and philosophical stance a research study is expected to follow (Creswell, 2014:136 & Hesse-Biber, 2010:465). Hence, it is critical to briefly discuss the assumptions and philosophical stance adopted in this study as the researcher adopts the pragmatist's position.

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1.6.3.1 Ontological assumptions

Ontological assumptions are philosophical views and propositions that researchers posit about the existence and nature of the dynamics of the social world (Packer, 2011:23; Creswell, 2013). There are two broad ontological divisions: realism and relativism. Realism is a philosophical view that endorses those real objects, properties, and relations exist independently of people's perceptions and thoughts. The knowledge that people have about the world is derived from exposure to these realities (Sadegh-Zadeh, 2012:488). Conversely, relativism is a world view that argues that there is a diversified interpretation about things, life, or events and a lack of consensus as to which approach is best to apply (Finlay and Ballinger, 2006:19). The researcher acknowledges this, and the following ontological assumptions were used in this study:

- Lifeworld is constituted nature of dynamics and accordingly, the mother's' views about the utilisation of facility childbirth service in public health facilities depend on the quality-of-care service. If there is quality care, future utilisation of the facility will be increase.
- Adequate availability of supply, essential resources in the hospital, and adequate experienced skilled healthcare professionals assigned in the delivery ward are essential for provision of quality delivery service.
- Some of the aspects of quality childbirth care mothers' perceived quality childbirth service depend on the level of the facilities when the level of hospitals improves then the quality is increase.

In applying ontology in this study, the researcher used quotes and themes in the words of the participants, with evidence of different perspectives of facility delivery services.

1.6.3.2 Epistemological assumptions

Epistemological assumptions are philosophical views that dictate the way of an investigation that in essence focuses on how people perceive and know the social realities or phenomena they encounter in their daily activities (Denscombe, 2010:119 & Packer, 2011:23). In other words, it is a set of assumptions in a specific field of study that helps researchers to scrutinize and disclose realities surrounding their areas of interest through the application of scientific procedures. A philosophical position that the researcher holds to inquire into a specific area

of knowledge determines which epistemological position to follow. According to Denscombe (2010:118), modern social research commonly focuses on specific and key philosophical positions. These philosophical stances are positivism and critical realism for the quantitative, interpretivism and constructivism for the qualitative, and pragmatism for mixed methods. Brief discussions on the stances of this study are presented as follows:

- Client-centred quality childbirth care service will increase institutional childbirth service utilisation, and this helps to reduce maternal mortality related to labour and delivery obstetric complication.
- The quality of institutional childbirth services as constructed by women who had labour pain and received delivery service in the hospital with a good outcome. Both the mother and newborn will shape the provision of client-centred delivery care.

1.6.3.3 Methodology assumptions

A methodology refers to a model to research within the context of a particular paradigm. It comprises the underlying sets of beliefs that guide a researcher to choose one set of research methods over another (Wahyuni 2012:69). There are different ways of classifying paradigms. These include positivism, post-positivism, pragmatism, and constructivism (Pruyt, 2006:9). The positivist ontological-epistemological position is realistic. There is a single external reality that can be known by an objective observer (Kivunja & Kuyini 2017:32). Constructivists postulate that multiple socially constructed realities exist and can be accessed by a subjective observer. This means the researcher makes meaning of their data through their own thinking and cognitive processing of data informed by their interactions with participants. The key point is that reality is socially constructed (Kivunja & Kuyini 2017:33). Conversely, the post-positivist position posits that with its attendant assumption of uncertainty, there is little room for objectivity which indicates that it can be influenced by the value held by the researcher (Wallis 2010:80).

Pragmatist thinking denotes that there is a key idea of inquiry to create knowledge in the interest of change and improvement (Goldkuhl 2012:87). Therefore, the researcher should choose methods based on what will work best for the research questions. Pragmatism does not take a dogmatic position concerning different methods (Goldkuhl 2012:88). Therefore, the researcher can choose qualitative, or quantitative or mixed approaches based on the

type of research questions that are going to be addressed by the researcher to help to discover a new knowledge (Kivunja & Kuyini 2017:33).

In this study, because of the nature of questions being complex and to get a more meaningful understanding of problems and answer a research question, the researcher adopts the pragmatist's approach to assessing the quality of institutional delivery service and developing client centre guidelines. By using the quantitative method, the researcher understands the healthcare professional and health facility readiness and the clients' satisfaction in the perspective facility and also qualitative method was used to explore and describe the lived experiences of childbirth care (Barbour et al 2005). The researcher used key informant interviews, observation, exit interview, and in-depth interview and document review respectively.

1.6.4 Theoretical framework

Theoretical framework is a 'blueprint' or guide for a research (Grant & Osanloo, 2014). It consists theoretical principles, constructs, concepts, and tenants of a theory (Grant & Osanloo, 2014). Framework offers a foundation or structure that guides the development of the study and enables the researcher to link the findings of the study to the body of knowledge (Moleki 2008:28). It borrowed by the researcher to build his/her own conceptual framework (Creswell 2014; Polit & Beck 2012: 13).

Donabedian framework is the quality-of-care model which was adopted and used to frame the study and link the findings of the study to the body of knowledge and conceptualise this in practice through the development of client centre practical guidelines to promote the quality of maternity care service provision.

1.6.5 Description of the Donabedian Model

Quality of medical care is highly contextual and a difficult concept to define it although it reflects values and goals in the medical care system (Ameh et al 2017:2). Several scholars have attempted to define quality within the health-care setting. Donabedian model is a conceptual model that provides a framework for examining health services and evaluating the quality of healthcare while there is another quality care framework including the WHO recommended quality of care framework. The Donabedian model is a dominant framework

for evaluating the quality of care in the ICDM (Donabedian, 1988:177-180; Ameh et al 2017:3). This model defines quality as three distinct aspects of quality: structure (input), process and outcome. Structure attributes of human resource and organisational structure are associated with the provision of healthcare. The process is the actual giving and receiving the client (e.g. client-provider interaction and healthcare professional's skill on clinical procedures) and the outcome is an indirect measure of the quality of service and has two divisions that are the technical outcome and interpersonal outcome. For this study, we used maternal satisfaction under interpersonal outcome (Donabedian1966; 1988).

Structure (input): is defined as the human resource and organisational resources associated with the provision of delivery care. This includes the physical facility, equipment/medicines, and human resources, as well as organisational characteristics such as staff training and service payment (Donabedian 1988:188; Clark et al 1966:199; Munea et al 20202: 2).

Process: is the sum of all actions that make up healthcare (client-provider interaction and provider adherence to standard care during the intrapartum and immediate postpartum period). These commonly include diagnosis, treatment, preventive care, and patient education but may be expanded to include actions taken by the patients or their families. Processes can be further classified as technical processes, how care is delivered, or interpersonal process (communication, respect her dignity and privacy, involve family members etc.) (Donabedian 1988:175) which all encompasses how care is delivered. According to Donabedian, the measurement of the process is nearly equivalent to the measurement of quality of care because the process contains all acts of healthcare delivery process (Fisseha et al 2017:4; Clark et al 1966:199).

Outcome: is the desired result of care provided by the health practitioner. It contains all the effects of healthcare on patients or populations, it can be classified into two i) technical outcomes, which are the physical and functional aspects of care, such as the absence of complications and reduction in disease, disability, and death; and ii) interpersonal outcomes, which include, knowledge attitude and patients' satisfaction and health-related quality of life. The outcome is the indirect measure of the quality of services, sometimes seen as the most important indicators of quality because improving patient health status is the primary goal of healthcare. However, accurately measuring outcomes that can be attributed exclusively to healthcare is very difficult (Donabedian 1988:175; Ameh et al 2017:3).

1.6.5.1 Justification for using the choosing quality model

Several models have been used to assess quality of care services, and among these, Donabedian quality care model is adapted and applied as the conceptual framework for this study. This model/framework is used for this study for the following three reasons. The first reason is that as the quality is multi-dimensional in nature, the selected model is the best evaluating framework as it is comprehensive in evaluating quality care from three dimensional points of view (structure, process, and outcome) (Donabedian1988:1147). The second reason is that it is the commonly used and dominant model to evaluate the quality of healthcare. The third reason is that the Donabedian model is underpinned by measurement for quality improvement, as it evaluates quality delivery care services at public health facilities in north west Ethiopia in terms of structure, process, and outcome from three dimensions it has complete elements of measurement and pathway to act on those gaps to improve the quality of care based on the desired outcome (Tuncalp et al 2015:1046). Therefore, this model can also be applied to a large health system to measure overall quality and align improvement activities to improve quality and outcomes for a population. Based on this, this model enables the development of client centre guidelines to improve childbirth care. Figure1.1 outlines the three domains of the model and how they link to create quality care.

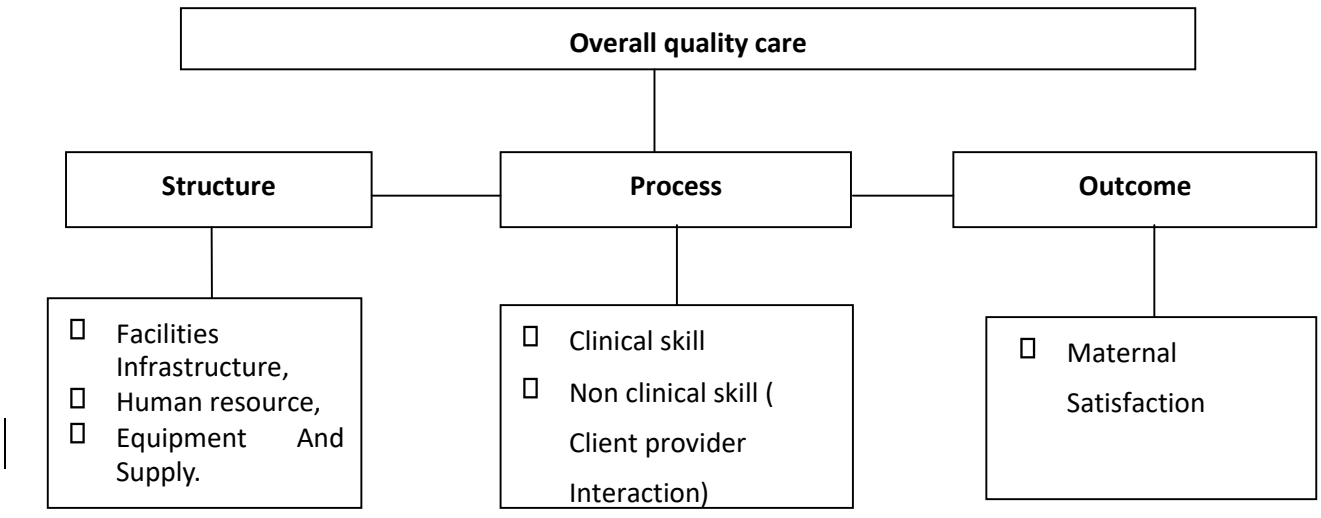

Figure 1. 1 Theoretical framework for quality of care in childbirth delivery care

Adopted (WHO 2016:16; Bothma & Labuschagne 2019:369)

1.7 Definition of key concepts

1.7.1 Conceptual definitions

Institutional delivery: Institutional delivery means giving birth to a child in a medical institution under the overall supervision of trained and skilled health personnel where there are more amenities available to handle the situation and save the life of the mother and child.

Institutional delivery: a delivery that takes place at any medical facility staffed by skilled delivery assistance (Nigatu & Gelaye2019:3).

Skilled professionals: according to WHOM, UNFPA, UNICEF, ICM, ICN, FIGO and IPA definition of terms are competent maternal and newborn health (MNH) professionals educated, trained, and regulated to national and international standards. They are competent to: (i) provide and promote evidence-based, human-rights-based, quality, sociocultural sensitive and dignified care to women and newborns; (ii) facilitate physiological processes during labour and delivery to ensure a clean and positive childbirth experience; and (iii) identify and manage or refer women and/or newborns with complications (WHO 2018:Vii)

Quality: The Oxford Advanced Learner's Dictionary (2010:1240) refers to quality as a feature of something, especially one that makes it different from something else. It is the totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs. In this study, quality refers to institutional delivery services that meet the stated standard of care and create satisfactory client experiences.

Quality of care is defined as the degree to which healthcare services for individuals and populations increase the likelihood of desired health outcomes that are consistent with the current professional knowledge. In this study, quality of care refers to the overall quality of institutional delivery service by incorporating client, provider, and facility to give delivery service for the client to create satisfactory experiences based on the standards (Busse et al 2019:5).

Guideline: Guidelines are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances (Field & Lohr 1990:38).

BEmOC (basic emergency obstetric and neonatal care): is a strategy for reducing maternal mortality through the treatment of obstetric emergencies in hospitals and health centres (The Ethiopian Society of Obstetricians and Gynecologists (ESOG) – Strategic Plan 20112016).

Comprehensive emergency obstetric and neonatal care (CEmONC): - CEmOC includes BEmOC plus the following additional services: Anaesthesia blood transfusion surgical obstetrics including Caesarean delivery, repair of high vaginal or cervical tears, laparotomy (surgical treatment of sepsis, hysterectomy, removal of ectopic pregnancy) (The Ethiopian Society of Obstetricians and Gynecologists (ESOG) – Strategic Plan 2011-2016).

Client: A person who uses the services or advice of a professional person or organisation' (Oxford Advanced Learners Dictionary 2005:263). In this study, the client refers to women who receive childbirth services in health facilities.

Perspective: According to Oxford Advanced Learner's Dictionary (2010:1132) definition perspective is a particular attitude towards something or viewpoint. In this study, perspective refers to client views on the quality of institutional childbirth service

1.7.2 Operational definitions

Childbirth services - refers to delivery/labour and immediate post-natal services.

Mothers/women are those who use childbirth services in the health facilities and participated in the study. In this study women and mothers are used interchangeably

Client: Women who use childbirth services in the health facilities.

Guidelines: are recommendations based on the findings of the study that are given by an official organization telling how to do something healthcare workers to improve the care. In this study, a guideline refers to a set of suggested rules or instructions that Ethiopian public health facilities can use to promote the provision of client-centred childbirth care

Client satisfaction: is the satisfaction of mothers gain during service delivery. It is the care level gained that increases the likelihood of future utilisation of maternal health service level. Those who are satisfied in greater than or equal to 75% of the items will be categorized as satisfied those who are satisfied in less than 75% of the items will be categorized as unsatisfied.

Input quality: the availability of essential drugs without stock out in the last 12 months and the availability and functionality of logistics, equipment, and basic infrastructure. Therefore, input quality will be measured as good quality if scored ≥75% or more of the input quality score.

Process quality: Process quality is measured using appropriate items taken from the WHO guidelines which are like the national guideline items included activities during the examination of mothers at admission, care during the various stages of labour (first, second, third), and the immediate postpartum period, interpersonal relationship, and universal hygiene precautions. Then, facilities categorise as having good process quality if they score ≥75% or more of process criteria.

Output quality: is measured by considering both satisfaction of mothers and CEmONC utilisation at the facility level. This entails using appropriate items that are adopted from the national guidelines to assess satisfaction levels of mothers then, facilities categorised as providing satisfied service to mothers if they score at least ≥ 75% of the satisfaction score.

Overall Quality of delivery service: Facilities leveled as good quality by combining input, process, and output if it scored at least ≥75% of the items in all three components attended to measure the respective quality components otherwise classified as performing poor quality (below the standards).

1.8 The research design and methods

Research design is “a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings” and used as a plan that describes how, when, and where data are to be collected and analysed to answering the research question or testing the research hypothesis (Akhtar & Islamia 2016:68).

1.8.1 Design chosen

Concurrent mixed methods design has two components: quantitative cross-sectional study design and qualitative research design were used to assess the quality of institutional delivery service by using the client, provider, and health facility readiness perspectives in the selected public health Hospital in North West Ethiopia to develop client centre practical

guideline to promote the overall quality of institutional delivery service. A detailed description of the research design and methods used in this study is presented in chapter 3.

1.8.2 Research setting

The study was conducted in Amhara region governmental health institutions (ARHIS), North West Ethiopia among pregnant women who gave birth and received intrapartum care in the selected hospitals. In the study area, there are 21 hospitals and among these, the study was conducted at eight randomly selected hospitals. The eight selected hospitals were appropriate for this study since 2015, a total of 18, 688 childbirths were attended. A detailed description of the study setting is provided in chapter 3.

1.8.3 Research population

1.8.3.1 For quantitative approach

According to Sekaran (2003:441), population is defined as the entire group of elements that the researcher seeks to investigate. The study populations were all women who give childbirth in public health facilities in the year 2017 in Amhara Region city hospitals. An individual working in the selected health facility includes the head of the health facility and skilled delivery healthcare professionals and mothers give birth in the selected hospitals. All these three groups of peoples in each selected health facility were included for the data collection. A detailed account of the target population and the study sample are presented in chapter 3.

1.8.3.2 For qualitative approach

It includes mothers who get delivery services, attendants who accompany mothers for delivery services and skilled delivery healthcare professionals.

1.8.4 Data collection procedure

1.8.4.1 For quantitative

Quantitative data were collected by face-to-face interviews using a pre-tested and structured questionnaire that is adopted from the Maternal and Child Health integrated programme and USAID standards developed to measure the integration of family planning and other national

guidelines. Data on structural- attributes of quality were collected by conducting resource inventory in each of the study health facilities, observation with checklist during delivery, exit interview after the women give birth/immediate postpartum period and before discharged the hospital, and document review. In general, four types of data collection tools were used to gather data for this study and the interviews were conducted in the obstetric wards of the selected hospitals. A detailed description of the data collection tetchiness is presented in chapter 3.

1.8.4.2 For the qualitative

Data were collected through in-depth interviews with delivery healthcare professionals, clients who get the delivery service in the selected hospital and attendants who accompany women who came for delivery service in the selected hospital. The interview guide, tape recorder, and notebook had been used during data collection.

1.8.5 Data analysis

1.8.5.1 Quantitative study

Data were entered and analysed with SPSS for windows version 23. Descriptive statistics were used to present results of basic characteristics. Binary logistic regression analysis and multivariable logistic regression analysis was used. An odds ratio with a 95% confidence interval was used to show the association between factors and the outcome variable and hierarchical model analysis was used to increase the statistical strength. The detailed data analysis is presented in chapter 3.

1.8.5.2 Qualitative study

Data were transcribed, translated, and analysed using themes. The data were analysed using Open Code version 3.6.2.0 (qualitative data management and analysis software). More importantly, the transcripts were reviewed by the researcher and two different independent reviewers' expertise against the original audiotape records before analysis. A detailed account of the data analysis is presented in chapter 3.

1.8.6 Ethical considerations

Ethical clearance was obtained from the Research and Ethics Committee, Department of Health Studies, University of South Africa (UNISA) (see ANNEXE 1). Approval to collect data was obtained from Amhara Regional Health Bureau Ethical Committee (See ANNEXE 2). Letters of permission were obtained from respective authorities in the region. Confidentiality was maintained by anonymous questionnaires and checklists and keeping the filled questionnaires. Informed consent was obtained from each participant before data collection. Appropriate counselling and care were provided to participants.

1.9 Scope of the study

The scope of this study was to assess the overall quality of institutional childbirth service provision in public health facilities in Ethiopia Amhara Region. The study was conducted in eight hospitals that have functional in CEmONC in the Amhara Region. Even though the study was not assessing overall hospitals in the Amhara Region, the study explored all quality components in-depth to get adequate information including provider and client perspective quality of institutional delivery service. Finally, based on the result of this study, client centre quality institutional delivery service guideline is developed.

1.10 Structure of the thesis

This thesis has the following chapters, and they are described as follows.

Chapter 1: Orientation of the study

This chapter is devoted to explaining an overview of the whole study. It provides information about the introduction, background of the research problem, statement of the research problem, the significance of the study, aim and study objectives, the foundation of the study, the research design and method, conceptual and operational definitions regarding key terms, study population and analysis, ethical consideration and the scope of the study.

Chapter 2: Literature review

This chapter reviews the literature on issues related to the quality of institutional delivery service. The chapter highlights the quality of care concepts and models, factors affecting the

quality of institutional delivery service, client satisfaction, need for quality of care improvement, and highlights the paradigm for improving maternal health, strategies, and approaches to maternal mortality reduction.

Chapter 3: Research design and method

The third chapter describes research design and methods, the study setting, the study population, sampling frame, selection and calculation of sample size, data collection approach and methods, data collection instruments and data collection technique, data quality control validity and reliability, data analysis, and finally ethical considerations.

Chapter 4: Analysis and presentation

This chapter deals with the analysis and presentation of the quantitative survey part of the study findings based on the objective of the study systematically.

Chapter 5: Analysis, presentation and description of the research findings

This chapter deals with analysis, presentation, and description of qualitative research findings. It explains the biographical profile of the participants and the main findings of the in-depthinterviewbased on themes, category, and subcategory.

Chapter 6: Discussion on findings

This chapter deal with the discussion of the findings by classifying phase one the quantitative findings and phase two the qualitative parts.

Chapter 7: Conclusion, recommendation, and limitation of the study

This chapter providesa summary conclusion and recommendation based on the objectives for each quantitative and qualitative finding for how to improve quality childbirth service in the facilities and finally indicates the limitation of the study.

Chapter 8: Guidelines for the provision of client- centred quality delivery care

This chapter deals with the overall process of developing the guidelines, their application scope, and implementation of the client- centred guideline.

1.11 Conclusion

This chapter has provided the general overview of the study starting from the background of the problem, source of the research problem, the aim of the study, the objectives, research question, significance, foundation of the study, definition of key concepts, and operational definitionshave been discussed. The research design and methods, including study settings, population, data collection, analysis, ethical considerations, and finally the scope of the study and structure of the thesis are also part of this chapter.

The next chapter presented a Literature review aligned with the main research problem of the current study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature on the quality of institutional delivery service in Ethiopia's public hospitals. It considers local and international studies related to the topic of the study, the overall quality of institutional delivery service in public hospitals in Ethiopia. The literature review discussed the concept of quality of institutional delivery care according to the facility structure, process and client perspective of quality institutional childbirth service and its determinant factors including the existing quality improvement strategy. The literature review describes that the relevant studies were identified through a review of research articles found through electronic search from the data bases such as, Sabinet, academic premier, Cinahl, Pubmed etc and the key words which I used for childbirth were from Unisa Library.

2.2 The concept of institutional delivery service

Ethiopia is among the top six high burden countries in which half of the global maternal deaths occurred with an estimated MMR of 673, 676 and 412 /100, 000 live births according to EDHS

in 2005, 2011, and 2016 respectively (CSA&ICF 2016:252). Maternal mortality is the death of a woman while pregnant or within 42 days of termination of pregnancy. During this period, most obstetric complications or the direct cause of maternal death (Yifru & Berhan 2014:15; Bhandari & Dangal 2014; WHO 2015:17) such as hemorrhage, obstructed labour, preeclampsia/ eclampsia, and sepsis (WHO 2015:17) occurred unpredictably especially during the time of delivery. But all these problems can be prevented with immediate and efficient obstetrical care during and after childbirth in the health facilities. They can also make the difference between life and death for both women and their newborns (Bhandari & Dangal 2014:1). Global report and other studies in subSaharan Africa highlight that facility-based delivery has gained traction as a key component of thestrategy for reducing maternal mortality and morbidity indeveloping countries (Doctor et al 2018:1; Gülmezoglu et al 2016:5; Doctor et al 2018:11) especially facilities that provide comprehensive emergence obstetric and newborn care (CEMONC) service. A study conducted in Uganda and Zambia reduce MMR in the health facilities declined by 35% in each country (from 534 to 345 in Uganda and from 310 to 202 in Zambia) by increasing facility delivery rate 62% in Uganda and 35% in Zambia (Serbanescu et al 2017:1). In Ethiopia, maternal mortality reduced to 64% owing to increasing facility delivery (Lindtjørn et al 2017:1). Childbirth is a critical time for the mother, fetus and newborns (Lawn et al 2014:7-10). A global and national study shows that maternal and neonatal death related to pregnancy is high during the intrapartum period (Kassebaum et al 2014:1). It is estimated that 40 to 45% of pregnancy related maternal death, stillbirth, and neonatal deaths occurs during labour, delivery, and the immediate postpartum period in south Asia and sub-Saharan Africa (Ahmed et al 2018: e1297) and the Australian Institute of health 17.8% of stillbirth occurred during the intrapartum period (AIHW 2019:11).

In Ethiopia, 22.6% of birth asphyxia occurred in the first minute of birth during the intrapartum period (Woday et al 2019:1). Even though ANC service is provided, it is not possible to prevent the causes of maternal deaths that result from complications arising during labour, delivery, and the immediate postpartum period. Since most causes of maternal deaths happen during intrapartum and postpartum period after the onset of labour (Merdad et al 2018:1). This death is caused mainly by hemorrhage, hypertensive disorders and sepsis (WHO 2015:17; Geller et al 2018:31; Lilungulu et al 2020:1).

WHO ensures that facility birth with midwifery skills has the most important strategy in preventing neonatal and maternal deaths (WHO 2015:18; Bhutta et al 2014:1) since skilled

attendants during labour, delivery and in the early postpartum period can prevent up to 75% or more of maternal deaths (WHO 2015; Shiferaw et al 2013:1; Kidanu et al 2017:2). However, despite the significant global progress made to reduce maternal mortality over this 25-year period, many countries did not reach the Millennium Development Goal (MDG) 5 target of reducing their MMR by 75% (Cha et al 2017:1, Kyei-Nimakoh et al 2016:1). Globally, the MMR reduced by 44% only between 1990 and 2015. Even though Ethiopia has registered more remarkable progress, it is possible reducing MMR by 71.8%. This is below the target (Bongaarts 2016:276) because of unsatisfactory coverage of institutional delivery services, 5% in 2000 to 10% in 2011, 26% in 2016 and 48% in 2019 (EPHI & ICF 2019:14, CSA and ICF 2016: 134). Given the fact, childbirth is the time of highest risk for mother and newborn life which needs a rapid response by skilled health workers (Lawn et al 2014:1).

2.3 The concept of quality of institutional delivery services

Even if quality is a complex concept and define from different standpoints (Larsonet al 2019:563, Brizuela et al 2019:e624 & Tunc alp et al 2015:1045), according to the Donabedian model definition, quality can be described in terms of three major aspects the structure (materials, infrastructure, and human resources), process (adherence to standard care during intrapartum and immediate postpartum periods), and outcome (maternal satisfaction by the provision of the service and utilisation of emergency obstetric and newborn care) (Donabedian 1988:1745, Fisseha et al. 2017:1 & WHO 2016:1). Based on this, quality care should be comprehensive, safe, effective, timely, efficient, and acceptable by the user (WHO 2018:12; WHO 2016:1) to increase the likely hood of desire health outcomes and are consistent with current professional knowledge (WHO 2018:30).

Providing quality of care for a woman during pregnancy, delivery, and postpartum periods are curial to improve health outcomes and reducing preventable mortality and morbidity among women and their newborns (WHO 2016:1; Brizuela et al 2019: e624). It is also the likelihood of obtaining ongoing care in the future to improve universal health coverage (Srivastava et al 2015:1; Dalinjong et al 2018; Munea et al 2020:1). Even if there are substantial improvements that have been observed in the coverage and access to maternal health service in Ethiopia, yet improvement in the quality of care has been lagging (Fisseha et al 2017:1; Fisseha et al 2019:1; Asrese 2020:1). This indicates that increasing facility delivery alone may not reduce maternal and newborn mortality if the quality of care is poor (Gabrysch et al 2019: e1074,

Gashaye et al 2019:47; CSA & IC F 2016:47). Poor quality care is now a major barrier hindering the reduction maternal mortality than insufficient access to the service. Studies confirmed that 60% of deaths happened owing to poor quality care whereas the remaining death results from non-utilisation of the health system (Austin et al 2014:1; Kruk et al 2018: e1196) since poor quality care undermine the trust of the mother to use the service in the facility (WHO 2018:16; MunabiBabigumira et al 2017:1; Weldearegay et al 2020:2). In recent times, there are survey data showed that women experience poor quality care in Ethiopia (Bohren et al 2015:1; Bohren et al 2019:1750; Fisseha et al 2019:1).

Even if quality care is an important determinant of the future progress of health in the world did not have been given adequate attention in developing countries (Sharma et al 2017:1). In Ethiopia, the healthcare system interims of quality of intrapartum care still no improvement (WHO 2015:2; WHO 2016:2), and there is no mechanism to monitor the quality of care provided in the health facility (WHO 2016:2). Moreover, the study is limited in Ethiopia on the factors and the level of quality intrapartum and immediate postpartum care. The existing study only focuses on the outcome (maternal satisfaction) domain of quality care but not others domain (Tesfayeet al 2016:1; Desta et al 2018:1; Asres 2018:21). In this context, identifying the underlying factors and which domain of quality that influences poor quality delivery service is a critical input to intervene in the improvement of overall quality delivery service (Austin et al 2014:1). Therefore, in this study, we assessed all quality components of institutional delivery service as patient experience measures only could not reflect clinical outcomes or adherence driven outcomes (LaVela & Gallan 2014:28; Baltimore 2013). Even if all the three quality assessment components are interlinked to each other and even one component which is substandard the overall quality is affected (Donabedian 2005).

2.3.1 Overall quality of institutional delivery service

Delivery of quality health services is a fundamental intervention of maternal health to enhance the utilisation of delivery service and improve the health status of mothers and newborns (Dewana et al 2017:1; Brizuela et al 2019: e624). Improving access to institutional delivery service without quality care does not achieve both the coverage of utilisation and better maternal and child survival (Weldearegay et al 2020:1; Mocumbi et al 2019:1). To improve maternal health, all women should have access to high-quality delivery services (Campbell et al 2016:1; Koblinsky et al 2016:1). According to WHO, To meet this, all facilities providing the

service should be in multidimensional aspects quality care framework (Tunc alp et al 2015:1) which builds on the base of articles written by Donabedian three quality components (Donabedian 1988:1147) structure, process, and outcome. These three approaches of quality are important when only good structure improves the likelihood of good process and good process increase the likelihood of good outcome (Donabedian 1988:1147). But, in most of the low and middle-income countries, the overall quality of delivery services was poor (Sharma et al 2017:419; Campbell et al 2016:1; Bohren et al 2015:1) Including Ethiopia. Even-though Ethiopia has tried to access quality delivery care by implementing different quality improvement interventions based on the three components of the Donabedian model. Studies showed that the quality of institutional delivery service is still very low.

Studies in Ethiopia indicated that the overall quality of institutional delivery service was 6.3% and 54.06%. (Fisseha et al 2017:1; Dewana et al 2017:1). Among the three components, the most compromised quality components were the process which creates a gap in the continuity of care and it affects birth outcome (Kaye et al 2015:1; Fisseha et al 2017:1).

However, most of the studies did not assess the quality of delivery services using all the three components of the Donabedian model particularly the input and process quality domain. According to the review, facility assessment tool input and process quality measures were not measured at all (Brizuela et al 2019: e624; Babure et al 2020:1; Paudel et al 2015:1).instead the existing studies focused mostly on the output components of quality on maternal satisfaction as a quality measure (Bitew et al 2015:1; Amdemichal et al 2014:1). Moreover, these studies did not deem the association between maternal satisfaction and quality measure of the input and process of delivery care service. This entire gap motivated the researcher to investigate the overall quality delivery care services in North West -Ethiopia. In addition to investigator observation on the clinical and public health burden of maternal health problem secondary to childbirth and its complication in Ethiopia Amhara region .since the decline in the prevalence of maternal death secondary to pregnancy and childbirth-related complications is insignificant (Tessema et al 2017:1; Berhan & Berhan 2014:3).

2.3.1.1 Quality in terms of input

The structure is organisational factors that define the health system under which care is provided. It includes physical resources (infrastructure, equipment, drugs, and supplies) and human resources that are adequate, appropriately trained, motivated, and supervised

care healthcare professionals (Donabedian 1988:1147; Fisseha et al 2017:2; Emiru et al 2020). Health facilities can only provide quality services if their physical infrastructure is matched with adequate and functional materials and supplies. Quality of care can be affected owing to poor structural/input of the facility. WHO (2018: 3) recommends that every intrapartum and postpartum women should be followed by skilled healthcare professionals because different studies showed that there is no adequate number of skills provide assigned in the facilities. In Zanzibar 3 out of 5 hospitals fulfilled the minimum standards of the skilled provider (Housseine et al 2020:1; Iravani et al 2016:5), Uganda half of the minimum required number (Wilunda et al 2015:5) and in Ethiopia the number of healthcare professionals is not proportional to caseload (Fisseha et al 2019:6). This condition brings insufficient support of the labouring mother owing to exhaustion, increase workloads of the healthcare professional, sleeping during the night, lack of motivation, unfriendly behavior towards women and colleagues (Housseine et al2020:5; Iravani et al 2016:3). Moreover, professional capacity and staff motivation negatively affected the provision of skilled birth care at health facilities (Onta et al 2014:7; Mgawadere et al 2017:1) because of poor motivation scheme and lack of adequate training. Only 31.3%, 60.9% and 10% of the healthcare professional healthcare workers received emergency obstetric and newborn care training(Yigzaw et al 2017:1; Weldearegay et al 2020:2; Austinet al 2015:5) respectivel.

Poor infrastructure affects quality care as the report of different studies showed that inadequate space, lack of clean and functional shower and toilet. Lack of transportation and communication at the referral hospital, and the accessibility of water and electricity in low and middle-income countries affected quality intrapartum care. Only 18% of women in Kenya and 7% in Tanzania accessing water during delivery for sanitation (Lazzeriniet et al 2020:1; Berhane et al 2019:1; Gon et al 2016:1), 66% of hospitals in sub-Saharan countries lack electricity (Campbell et al 2020:7), no ambulances and dedicated phone lines (Austin et al 2015:1) and also lack of bed for mothers and their babies had to share beds or use the floor (MunabiBabigumira et al 2017:27). In Uganda, only 54% of health facilities has maternity beds (Wilunda et al 2015:4) and Kenya 7.4% national and 1.0% district hospital has delivery couch based on the standard (Owili et al 2017:6). All these imply that delivery rooms were not conducive to provide safe and women-friendly care (Chaturvedi et al 2015:1).

Medical equipment and supplies are another important thing for quality intrapartum care as the studies from Kenya show that only 50% of the hospitals have incubators (DiamondSmith et al 2016:8) and in the Philippines no towels for newborn care (Castillo et al 2016:6). In a study conducted in Nigeria, health facilities have 53.3% partograph, 56.7% vacuum extractor,93.3%functional blood pressure measurement apparatuses (Sphygmomanometer) and 23.3% have oxygen available respectively (Ifeadike et al. 2016:.5). Different regions of Ethiopia indicate that only 6.3% and 11.1% of facilities fulfilled infection prevention material and supplies (Yigzaw et al 2017: 4; Dewana et al 2016:33).

Also, in studies conducted in Tanzania, Nepal, and Ethiopia, the healthcare professional perception frequently not having essential drug and equipment available to provide quality care (Baker et al.2017:5; Ashish et al 2019:s31; Fikre 2016:85) and also in Ethiopia nonavailability of essential drugs, supplies and equipment is challenging for providing quality care (Windsma et al 2017:5; Emiru et al 2020:5; Teshome & Eticha 2016:4).

2.3.1.2 Quality respective of provider and client interaction

According to the Donabidan model, process refers to the professional competence of healthcare professionals while performing aprocedure and effective communication with clients (Donabedian 2005). To assess this, adherence to standard care during intrapartum and immediate postpartum periods between mothers and SBAs during childbirth and immediate postpartum periods is very important to bridge the gaps of the care since quality involves the consistent delivery of a product or service according to expected standards.

Developing good quality emergency obstetric services need to develop standards of care. It has detailed standards of care, written and endorsed by the government (WHO 2018). However, adherence to clinical standards was low particularly to manage bleeding, infection and pre-eclampsia risks (Brenner et al 2015:1). A study conducted in Uganda shows that 45% and 55% of the facilities missed more than 1-2 signal function of basic obstetric intervention; in particular, partograph use is the most frequently missed function (Wilunda et al 2015:4).

A study conducted in Kenya revealed that quality of maternal care was low, particularly the clinical quality of delivery care which is 0.58 out of 1 (Sharma et al.2017:1), in India 33.3% (Sharma et al 2017:424), in Ghana18% (Nesbitt et al 2015:1) and Ethiopia 31.25% facilities fulfilled process quality performance standard (Fisseha et al 2017:1). On admission, women

were greeted on arrival. In Malawi it was 71% (Sethi et al 2017:1), in Ethiopia 11%, 46.9%, and 78.5% (Asefa et al 2015:3; Fisseha et al 2017; Dewana et al 2017:33), and in Oromia, Tigray and Arba Minch District Gamo Gofa Zone respectively. A full history is taken as 82.6% in hospital and 59.6%in health centre (Yigzaw et al 2017:6).

During the physical examination, vital sign measurement is very crucial during labour and delivery since there are obstetric complications that happen during labour and delivery rather than another period as studies reported, most of the time not practicing. In a study conducted in Tanzania, blood pressure, fetal heart rate, uterine contractions, pulse rate, and temperature were rarely measured (Miltenburg et al 2018:5), in Kenya blood pressure measured ranged from 70 to 85%, Namibia 60 % (Diamond-Smith et al 2016:6), and India fundal height 1.1% (Sharma et al. 2017:424). Partograph is another important effective tool to monitor labour and prevent and detect complications like obstructed labour and to manage them earlier if they occur. WHO (2018) endorsed partographp as one of the tools to prevent complications and can assist the healthcare professional to detect and manage a complication. Moreover, it improves quality care and its outcome (Woldemichael et al 2015:3; WHO 2016). But, as different studies were conducted in different regions of Ethiopia showed that parthogrph use is not yet practiced properly used with only 10.1%,25%, 23.8% of the facilities having used partograph effectively (Yigzaw et al 2017:3; Fisha et al 2017:3; Zelellw &Tegegne 2018:6). On another hand, there is good figure utilisation of Partograph 69 %, 73.3%, and 83% (Hagos et al 2020:1; Hailu et al 2018:1; Gebreslassie et al 2019:1) respectively but some of them had utilised it incorrectly.

According to WHO (2015), quality of care framework non-technical care or interpersonal care is another important quality care issue to increase the health-seeking behaviour of mothers and to improve birth outcome. Different study reports indicated that most healthcare professionals are not implementing the healthcare guidelines regarding the accompaniment labouring mothers even if WHO confirms the benefits of a companion of choice at birth on labour outcomes. This is not practised in our facilities according to WHO standards. Different studies in developing country including Ethiopia showed that in Bangladesh 39% (Perkins et al 2019: 228), in Kenya only 29% (Afulani et al.2018:1), and in Ethiopia 13.8% of mothers were allowed companionship during delivery (Getahun et al 2020:1). Most of the time, the reasons cited for not allowing accompaniment was free of risk of infection, inconvenience for

provider activities and free of the family to observe may perform a mistake and overcrowding of the room.

WHO (2018) recommends respectful maternity care for all women for quality of interaction between mother and their healthcare provider and it emphasises the right of every woman (WHO 2018; Vogel et al 2016:671). More importantly, all women need to receive respectful care during childbirth care (Moridi et al 2020:1). A study conducted in Nepal shows that 84.7% of women experienced respectful care whereas in different regions of Ethiopia 66% and 38.4% of women received dignified maternity care (Sheferaw et al. 2017; Bante et al 2020:1) respectively. Among respectful care, women need privacy during labour and delivery, and WHO emphasised its right to women to respect their privacy and assuring confidentiality (WHO 2016:48). Different studies revealed that practice is little (WilsonMitchell et al 2018:6; Kabakian-Khasholian & Portela 2017:11; Mahato et al 2018:39). Other elements of dignified care are emotional support 42% (Bangal et al 2018:117), encouraged fluids/food during labour at list once and asked preferable position for birth in Malawi was 6.3% (Sethi et al 2017:4 ;) and in Ethiopia, one in five women in hospitals were given choices for the delivery position (Sheferaw et al. 2017:6).

- **Immediate newborn care**

A study conducted in rural Ghana revealed that 27% of the facility gives the quality of immediate newborn care (Vesel et al 2013:6). According to a systematic review study in the world, it revealed that skin-to-skin contact has a wide range of practice from 1% to 98%. Most of the high rate of practice was from high-income countries than from low and middleincome countries (Abdulghani et al 2018:1).

Similarly, a cross-sectional observational study conducted on newborn care immediately after birth in health facilities across six sub-Saharan African countries revealed that 80% of the newborn were immediately dried after birth and received clean cord care (GraftJohnson et al 2017:1), in Kenya 57% (Shikuku et al 2017:6), in Iraq 52% (Safari et al.2018:5) and in Brazil 9.3% (Sampaio et al 2016:284) respectively, having received skinto-skin contact after birth. Another important newborn care is in initiating breastfeeding. As the secondary analysis of the WHO global survey revealed that the initiation of breastfeeding within one hour of delivery was varied widely among countries ranged from 17.7% to 98.4% whereas in many developing countries the prevalence of initation of breastfeeding was aproximtely 50% (Takahashi et al

2016:1). In India 36.9%, in Kenya 76%, and Sudan 87.2% (Vijayalakshmi et al 2015:364; Nyambura 2017:29; Hassan et al 2018:1) respectively. And also other newborn care supply in Ethiopia at national and Amhara regional level reports indicated that vitamin K application was 41% and 31.6% respectively and TTC eye ointment application was 34% and 24% (EPHI&ICF 2016:1 57) respectively.

- **Immediate postnatal care**

According to WHO, practical post-partum guidelines, all mothers and newborns should receive postnatal care in the facility for at least 24 hours after birth with full clinical examination around one hour after birth (WHO 2015:1). But different studies revealed that postnatal care is compromised or below the standards. A study conducted in Nepal showed that immedate postnatal care utilisation was 13.5% (Adhikari et al 2016:17). Postnatal care utilisation among mothers who delivered at home in Ethiopia from the 2016 EDHS was 5.3% (Ayele et al 2019:1), in North shewa 28 .4% and Wolaita 34.9% respectively (Akibu et al 2018:1; Facha et al 2017:288). A study conducted in Swaziland shows that only 44.9% of mothers had their temperature measured, 26.6% pulse rate and 53.2% were physical examinations after childbirth (Dlamin et al 2017:1). Another study conducted in Malawi shows that 48% of midwives examined uterine involution and perineal inspection (Chimtembo et al 2013:346) in Ethiopia Tigray region 58.5% blood pressure and 65% temperature, 45.5% uterine tone (Berhe et al 2016:14) were examined. Follow-up monitoring based on the standards of immediate postnatal care particularly cardiovascular status, uterine contractions and bleeding performed in 11-16% of cases (Brenner et al 2015:11).

2.3.1.3Client satisfaction on delivery care service

Various local and international studies have indicated that measuring service user satisfaction with health service including childbirth care service is a universal cost-effective method of evaluating service quality (Srivastava et al 2015:1). Moreover, it is a key determinant of future service utilisation (Bitew et al 2015:4; Panth & Kafle 2018:10; Paudel et al 2015:8) since satisfaction reflects the overall quality or a consequence of care rather than true components of quality of care (Tafere et al 2018:10-11).

Different studies revealed that interpersonal behaviour of the healthcare professional, politeness of the staff, being able to maintain privacy, respecting of social norms, waiting time

before admission or consultation, involvement in decision-making, information received, cleanliness, and provider competency are the main determinant factors of satisfaction (Dhital et al 2015:4; Panth & Kafle 2018:1; Bitew et al 2015:3; Gitobu et al 2018:10).

Various studies conducted in African countries particularly in Egypt, India and Kenya indicate that the level of overall maternal satisfaction on facility delivery care were 78.5%, 68.7%,and 54.5% (Sayed et al 2018:2547; Jha et al 2017:1; Gitobu et al 2018:10) respectively. A study conducted in Nepal shows that percentages of maternal satisfaction with individual elements of quality of care received at the facility was healthcare healthcare professional's skills 85%, politeness of staff 83%, waiting time 80%, and involvement in decision making 77%, cleanliness 70%, information received 69% and assured confidentiality 67% (Paudel et al 2015:3). In a study conducted in a different regions of Ethiopia, the overall maternal perceived satisfaction towards facilities childbirth care varies from 31.3% to 88% (Gasaye et al 2019:1;Asres 2018:147, Darebo et al 2016:19, Woldeyohanes et al 2015:1).

Women's satisfaction with delivery service is based on the welcoming hospital environment, short waiting time, presence of accompanies throughout delivery, being informed about her and her newborn condition, the skill of the healthcare professional, assured privacy and listening to their questions, respectful delivery care service, confidentiality and trust in the care provider (Asres et al 2016:147; Darebo et al 2016:1; Woldeyohanes et al.2015:1). In general, this indicates that the process domain of quality care is the main dominant determinant of maternal satisfaction in developing countries, particularly interpersonal behaviour of the healthcare provider (Srivastava et al 2015:1; Gitobu et al 2018:1).

2.3.1.4 The overall determinant factors associated with quality of facility childbirth

Quality of care is a critical aspect of maternal and newborn healthcare mainly during labour and delivery and in the immediate postpartum period (Brizuela et al 2019: e624; ACOG 2018: e140; Asrese et al 2020:1) since preventable maternal and newborn death is dependent on the quality of care during birth and the immediate postpartum period (Sharma et al 2015:1). Otherwise, accessing to intuitional delivery alone without the quality of care do not bring better outcome (Weldearegay et al 2020:1; Austin et al 2015:1). Therefore, the healthcare system should provide high-quality care. Quality of intrapartum care and associated factors may differ in the availability of organisational structure and system (Kassaw et al 2020:4). Many facilities provide poor quality delivery service because of poor organisational structure (Housseine et

al 2020:1; Asrese 2020:1; Weldearegay et al 2020:1) such as the level of health facilities, managing authority, organisational capacity (availability of infrastructure, human resource and clinical guideline for maternal and neonatal care) (Owili et al 2017:1).

In terms of process quality findings different studies revealed that the level of health facilities has its own impact on providing quality delivery care. A national survey conducted in Kenya revealed that national hospitals have a higher rate of quality in terms of initial assessment, examination, newborn and immediate postpartum care than district hospital. Non-governmental hospitals are better than a governmental hospital (Owiliet al 2017:8). Furthermore, the healthcare healthcare professionals' skill capacity depends on the level of the hospital. Healthcare professionalsHealth professionals working in the hospital have better skill to use partograph than health centre (Yigzaw et al 2017:8). Hospital practice of basic emergency obstetric, newborn signal function, and laboratory service are better than health centre (Lama et al 2020:7; Desalegne et al 2017:81). In general, structural capacity heterogeneity across the facilities affects quality care. District hospitals are slightly better equipped in terms of infrastructure, equipment, and supply as compared to health centres (Kaur et al 2019:1). Institution structural factors such as lack of adequate skilled human resource, poor infrastructure, shortage of supply like essential drugs, equipment, and poor referral system are the main influencing factors affecting the provision of quality delivery service (Wilunda et al 2015:1; Dewana et al 2017:1; Ifeadike et al 2016:5).

Characteristics of the healthcare professionals in terms of number, competency, training, and their professional level became more important determinant factors for the quality of intrapartum care (Owili et al 2017:1). As different studies revealed that adequacy of staffing, availability of obstetricians during night duty, and year of experience are associated with high-quality intrapartum care than counterparts (Kaur et al 2019:1, Owili et al 2017:8). Healthcare professionals having adequate knowledge about evidence-based intrapartum care and healthcare professionals who have received partograph, basic emergency obstetric and newborn care training can utilise partograph in better quality than counterparts (Hailu et al2018:1; Hagos et al 2020:5, Kassahun et al 2015:7). A systematic review and meta-analysis study revealed that having EmOC and newborn training have a better capacity to interpret components of the partograph and increase confidence and motivation to use partograph than those who did not have training (Ayenew & Zewudu 2020:6; Hailu et al 2018:1; Gebreslassie et al 2017:4). Healthcare professionals who have diplomas are more likely to

use partograph than healthcare professionals who have MSC and above (Hailu et al 2018:3). This is because healthcare professionals having MSc and above lack skill aboutpartographutilisation in addition to their negligence. On the other hand, provider scarcity, incompetency, lack of training, and experience of healthcare professionals affect quality care. A mixed-method study conducted in Northern Ethiopia indicated that a mismatch between several healthcare professionals and facility client flow for delivery service and the gap between healthcare professionals' skill and knowledge and poor healthcare professionals caring behaviour affects quality intrapartum care (Weldearegay et al 2020:1; Larson et al 2020:54; Onta et al 2014:7).

A study conducted in a low-resource tertiary hospital in Netherlands pointed out that childbirth care provided by young nurses, midwives, and doctors with lack of supervision from experienced senior's and adequate staffing of the facilities could increase the workload of skilled birth attendants. This results in insufficient support of mother during birth (Housseine et al 2020:2; Munabi-Babigumira et al2017:2) and poor opportunities for performance improvement such as insufficient pre-service and in-service training in obstetric emergencies and lack of supportive supervision that affects the provision of quality delivery care (Austin et al 2015:7; Yigzaw et al 2017:1, Munabi-Babigumira et al 2017:3).

According to WHO quality standards and health care professionals, all health facilities should fulfill essential drugs, equipment and supplies to improve service quality since the quality of care depend on physical infrastructure in addition to human resource (WHo 2018:7; Lama et al 2020:7). Facilities with good infrastructure, presence of piped water, maternal and neonatal clinical guidelines, and facilities with maternity waiting areas were more likely to have better quality than counterparts (Kassaw et al 2020:7; Owiliet al 2017:8). On the contrary, poor infrastructure such as lack of adequate room and space, bed, water, availability of essential equipment supplies, and drug affects the provision of quality delivery care (Wilunda et al 2015:1; Ifeadike et al 2016:1). A systematic review and meta-synthesis facility-based study in sub-Saharan Africa revealed that facility structure (infrastructure, space, and resources) hinder midwives' ability to work professionally based on the standards, and it affects human interaction in the labour ward (Bradley et al 2019). Furthermore, the allocation of inappropriate physical space is a bottleneck to assured privacy and allowed accompanies for labouring

mothers (KabakianKhasholian & Port el al 2017:1) and lack of ambulance /cost of referral transport particularly inthe hospital (Godefay et al 2016:1).

2.3.1.5 Factors associated with maternal satisfaction

Assessing determinant factors with maternal satisfaction is crucial and helps to improve future utilisation of the services (Panth & Kafle 2018:1; Okumu & Oyugi 2018:2). There are numerous socio-demographic factors are associated with maternal satisfaction towards childbirth care. Findings from many studies revealed that women with no education or less educated mothers have higher satisfaction than educated ones (Asres et al 2018:153; Sayed et al 2018:2550; Amdemichael et al 2014:7; Gitobu et al 2018:1).

Mothers' level of satisfaction towards the quality of childbirth care is also related to the monthly family income. A study conducted in Egypt indicated that women who have high monthly family income are more likely satisfied than their counterparts (Sayed et al 2018: 2550; Al Ahmar &Tarraf 2014:585). Women who have earned their own salary are also more likely satisfied than women who are not (Jha et al 2017:8). Other studies conducted in the north-east of Peninsular Malaysia revealed that women who have a better family income are less likely to have satisfaction with delivery service than those who had less monthly income (Adnan et al 2020:10). Different regions in Ethiopia showed that women who had monthly income of less than 650ETB were three times more satisfied than women who had monthly income of more than 1900 ETB (Edaso & Teshome 2019:1; Lakew et al 2018:1). According to Demis et al (2019:5, Hailemariam et al 2020:3), mothers who came from urban residents are more likely satisfied than rural residents (Karoni et al 2020:10; Gashaye et al 2019:7). Therefore, socio-demographic factors, such as maternal education level, income, residence were found to be an important predictor of maternal satisfaction towards childbirth.

The findings from a systematic review and meta-analysis study conducted in Ethiopia showed that women who did not have ANC follow-up service are four times more likely satisfied with labour and delivery services than women who had ANC follow-up service (Demis et al 2019:6; Mekonnen et al 2015:1; Getenet et al 2019:6). Whereas in Japan, women who have frequent ANC follow-up are more likely satisfied with labour and delivery care than their counterparts (Khammany et al 2015:74).

Maternal satisfaction is influenced by organisational structure and process component of quality as Donabidan postulated that there is a relationship between SPO based on the idea

that good structure should promote good process and the good process should, in turn, promote good outcome (Donabidan1988; Mocumbi et al 2019:3; Srivastava et al 2015:1). Therefore, the different study revealed that availability of infrastructure and adherence to standard care during the intrapartum and immediate postpartum period are determinant factors for maternal satisfaction. Mothers who are accessing ambulance, free delivery service, received prescribed drugs from the hospital are three times more likely to be satisfied with the existing labour and delivery services as compared to their counterparts (Getenet et al 2019:7, Gashaye et al 2019:9; Demis et al 2020:6; Asres 2018:153).

It was also women who assured privacy during labour and delivery process, the short waiting time to see healthcare healthcare professionals, mothers who were asked for consent before performing any procedure, encourage and allowed a companion to stay with them, who received periodic updates on the status and progress of their labour from care healthcare professionals during labour and delivery and also following neonatal examination more likely to be satisfied than their counterparts (Bulto et al 2020:4-5; Demis et al 2020:6; Agimas et al 2018:2; Mocumbi et al 2019:1; Babure et al 2020:8; Edaso &Teshome 2019:116; Darebo et al 2016:23; Taddese et al 2020:5).

Types of facilities that render a service have their own impact on maternal satisfaction. A study conducted in Ethiopia by Tesfay et al (2016:1) and Mocumbi et al (2019:1) revealed that a mother who gave birth in primary level facilities tend to be more satisfied than those mothers who gave birth in the hospitals and those who delivered at government facilities were less likely satisfied than those who delivered at private hospitals (Mohamad, et al 2020:168).

2.4 Quality improvement strategy for institutional delivery service

When providing facility delivery care especially in developing countries for improving maternal health, the main concern is quality care (Tripathi et al 2015:1; Campbell et al 2016:1). High maternal and neonatal deaths occur during the intrapartum period because of inadequate care. For example, stillbirth is high in Ethiopia because of lack of early detection and management of prolonged labour and obstetric complication (Ahmed et al 2018: e1297; Chou et al 20-15:20; Mengesha & Dangisso 20202:1). Moreover, poor partograph use (Wakgariet al 2015:552; Gebreslassie et al 2019:1; Hagos et al 2020:1) considered this problem quality improvement strategy for childbirth service is important by identifying the key intervention to

improve maternal health and eliminating poor quality in any aspect of service delivery (Ham et al 2016). Based on this at the national level, the government of Ethiopia has used and implemented different institutional delivery service quality improvement strategy such as using skilled delivery for all women by developing midwifery standard (WHO 2008; Munabiabigumira et al 2017:1), childbirth checklist implementation guide (WHO 2015:8) and expansion of EmOC and establishing a well functional referral system recommended by the Federal Ministry of Health of Ethiopia (FMOH 2013). Different interventions should be integrated to improve quality maternal health because no single intervention can be effective (Souza et al 2013:1747). Moreover, availability and quality of maternal care have been evaluated using EmOC signal functions that treat the main causes of maternal mortality (WHO 2016).

2.4.1 Skilled delivery

Skilled delivery is essential to provide high-quality intrapartum care to each woman and newborns (Bohren et al 2015:2). According to WHO (2016), quality improvement standards having skilled delivery for all women by competent and motivated staff consistently is one of the effective quality improvement standards. Based on this, WHO (2016:20) directed that every woman and newborn should be receive routine, evidence-based care and management during labour, childbirth, and the early postnatal period by a skilled provider. Accessing quality obstetric care by skilled healthcare professionals to improve maternal health is a matter of women's right to life and health (United Nations 2010:2).

Even if uptake of skilled birth attendance is affected by a different aspect of the technical quality of maternal care as well as person-centred care (Hulsbergen & van der Kwaak 2020:1; MunabiBabigumira et al 2017:2), every woman has the right to dignified healthcare during childbirth (Bohren et al 2015:2). Having a skilled birth attendant during childbirth is an effective intervention to reduce maternal and early neonatal death (Shiferaw & Modiba 2020:1). Even though maternal mortality is correlated with multiple factors, there is a significant correlation between maternal mortality and skilled delivery (Girum & Wasie 2017:1).

According to the 2015 Health Sector Transformation Plan in Ethiopia Health care services, skilled health personnel during pregnancy, childbirth, and the postpartum period are important interventions in reducing maternal and neonatal morbidity and mortality (EDHS

2016:133;Nyflot & Sitras 2018:639;Hoogenboom et al 2015:1). Approximately threequarters of maternal deaths occur from complications during labour, delivery, and the first 24 hours postpartum period (Tessema et al 2017:1). These complications are difficult to predict (Lee et al 2017:336) but can be effectively managed if they are recognised and treated early without delay (WHO 2017) because most obstetric complications could be prevented and managed if women had access to a skilled birth attendant during childbirth (Liambila & Kuria2014:1; Petersen et al 2019:423). As a result, WHO recommends every delivery to be overseen by a skilled birth attendant (SBA). Skilled attendants are health professionals who can identify and manage normal labour and delivery, and identify and treat complications or provide basic care and referral (MunabiBabigumira et al 2017:3). Even if the healthcare professional is competent the intrapartum care is compromised owing to the enabling environment and inadequate assigning of the skilled healthcare professionals because of workload (Yigzaw et al 2017:1; Sedoro et al 2020:1).

2.4.2 Emergency Obstetric Care (EOC)

United Nations estimates that 15% of all pregnant women in the world develop serious obstetric complications (Fikre et al 2019:12838; Otolorin et al 2015:546) that require EmOC (Baileyet al 2009:5; WHO2017). Most of the obstetric complication is unpredictable (Bogale & Markos2015:2; Wassihun et al2020:2), but it is preventable and treatable (Facca et al 2020:586 Patil& Patil 2019:26). Emergency obstetric and neonatal care (EMONC) is an effective intervention to treat obstetric complications and preventing maternal and perinatal mortality and morbidity (Mirkuzi et al 2014:1). Therefore, accessing healthcare professionals skilled in EMONC services are essential in countries with a high burden of maternal and newborn mortality like Ethiopia (Otolorin et al 2015:546; Tesfaye et al 2018:1; Tessema et al 2017:1) since basic emergency obstetric care (BEmOC) consists of a package of life-saving interventions that causes maternal death such as hemorrhage, infections, unsafe abortions, eclampsia and obstructed labour particularly hemorrhage and hypertensive disorders as the leading causes of maternal mortality in developing country including Ethiopia (Say et al 2014:323; Tessema et al 2017:1). Basic emergency obstetric and newborn care (BEmONC) is promoted as a quality improvement intervention in low and middle-income countries to improve maternal and newborn health (Tirunehet al 2018:1; Mirkuzieet al 2014:1; Fikre & Berhanu 2018:1). However, availability and quality of care were found to be insufficient in most

low-income counters (Campbell et al 2016:5; Gelato et al 2018:1; Kumar et al 2019:1). For example,in Nigeria, only 26.7% of facilities practice comprehensive emergency obstetrics care (CEmONC) (Ifeadikeet al 2016:1), in Karamoja region Uganda, the number of EmOC facilities per 500,000 population was 3.7 % (Wilunda et al 2015:1) and Nepal among 623 facilities only 13.3% offered Comprehensive emergency obstetric care (CEmONC) (Ashish et al 2020: s31). According to Ethiopian national EMONC in 2016, the final report of the assessment despite that there is a substantial improvement, there is a huge gap to achieve 100% in the recommended availability and quality of EmONC in the facilities (EPHI 2017:27; Jombo, Enabudoso, Njoku, & Afekhobe 2019:2). In Ethiopia, the availability of EmONC is not sufficient, and the quality of EmONC is poor. A study done in the Tigray region shows that the perceived quality is poor 66.7% (Berhane et al 2017:1) and other study done in Dridawa out of six facilities that were expected to offer CEmONC; only one facility was qualified (Teshoma & Eticha 2016:1) whereas, in Gondar, the hospital performed all CEmONC signal function (Abate & Ahunie 2017:1). Most of the time, EmONC service is poor secondary to skill and shortage of the healthcare professionals, absence of essential equipment and essential drug (Fikre2016:85; Mirkuzie et al 2014:1; Abate & Ahunie 2017:1). Another study shows that there is delayed treatment owing to lack of efficient supply and equipment like blood transfusion, poor equipped operating theatre and skilled human resource owing to lack of training only 31.3 midwives received training in the hospitals (Fisseha et al 2017:5; Yigzaw et al 2017:1; Fikre & Berhanu 2019:1). Based on this condition, the provision of intrapartum quality care is not optimal.

2.5 Participants' perspectives on quality childbirth care

All mothers prefer and expect the hospitals to provide good quality care ranging from a humanistic approach like respectful and compassionate care to clinical care with a conducive structural environment like adequate human resources, drug supply, infrastructure, and cleanliness of the hospital's environment (Bhattacharyya et al 2018: 2). This indicates all three components of quality of care affect the perceived quality of the mother at intrapartum care particularly the interpersonal behaviour of the healthcare professional (Sileshi & Geberemariam 2016:1, Srivastava et al 2015:1). The practice of healthcare professionals is an important determinant of mother's perception of quality care (Oyugi et al 2018:1). Therefore, understanding the maternal perception of care is important since the future

utilisation of facility service of the mother is determined by their perception of the users who perceived the quality of the facility to be good are more likely increase the demand of to use again (Sapkota et al 2018:2; Peet & Okeke 2019:1).

In a study conducted in Ethiopia, women's experiences with healthcare healthcare professionals and facilities influenced the care-seeking decision of women (Shifraw et al 2016:1). But the study showed that there is positive and negative perception towards the quality of care. A study conducted in Tanzania revealed negative perception towards quality care owing to shortage of material and cost of the transport services (Mahiti et al 2015) and also another qualitative study in Malawi explore the inconsistent availability of medical resources and unethical practice of healthcare professionals affect the maternal perception of quality care (Machira & Palamuleni 2018:25). A study conducted in India found that women expressed no expectation of care and were not treated as expected (Bhattacharyya et al 2018:1; Pathak & Ghimire 2020:1). A mother's own views on delivery care service are important for acceptance and future utilisation of the service (Asrese 2020:2). Therefore, assessing maternal experience of care gives a better idea of quality care to develop a client centre guideline.

2.6 Conceptual Framework

Conceptual framework offers a foundation or structure that guides the development of the study and enables the researcher to link the findings of the study to the body of knowledge (Moleki 2008:28). A Donabedian theoretical framework is the quality of care model which was adopted and used to frame the study and link the findings of the study to the body of knowledge and conceptualise this in practice through the development of client centre practical guidelines to promote the quality of maternity care service provision. Measuring quality of care for delivery care service is multi-directional and conceptually complex.ther are multiple approaches to measuring quality of care, Donabedian model, which is the most common and comprehensive quality evaluation framework which has three distinct aspect of quality: structure (resource and organizational structure in health care setting), process (how health service is delivered both technical and interpersonal) and outcome(effect of care on the status of the mother)(Donabida 1988:173-92). Different study and Federal ministry of health selects this model to evaluate quality delivery service systematically against explicit

criteria for quality improvement in health care delivery (Tunçalp et al., 2015; Asrese, K., 2020:3; Sharew et al 2020:158).

Donabedian defined quality in three different aspects as: structure/input, process, and output/outcome

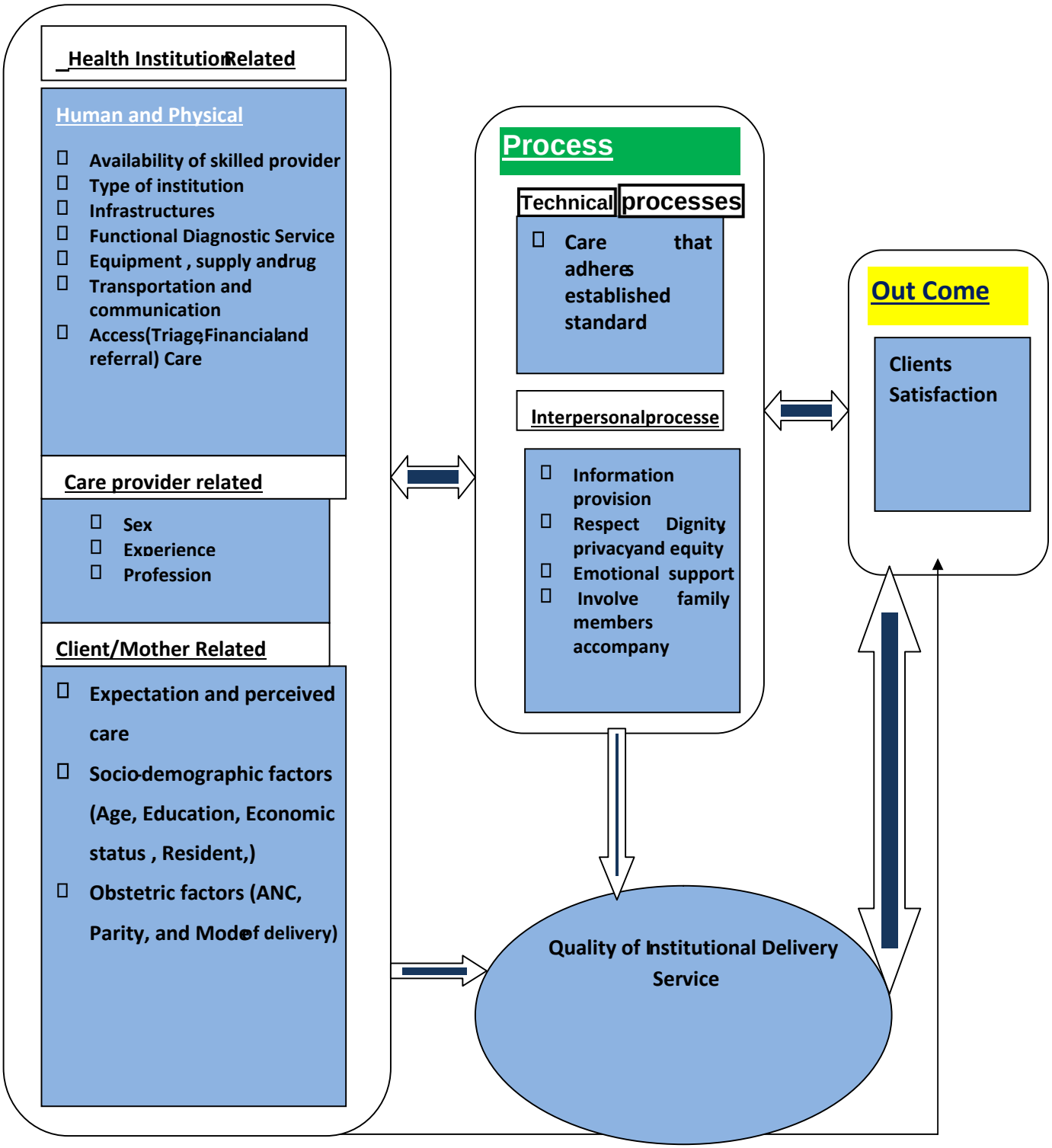

Figure 2. 1 Framework for assessing quality of institutional delivery services:

(Adapted from WHOM 2016:16; Botma & Labuschagne 2019:369). Amhara region, North-west, Ethiopia 2020

2.7 Conclusion

This chapter focused on a review of literature on the quality of institutional delivery service based on the Donabedian model quality assessment tool. The model is the dominant paradigm for assessing the quality of healthcare. According to the model, information about the quality of care is drawn from three categories: the three categories /components of quality are the structure, process and output. Therefore, this chapter reviewed literature on the quality of institutional delivery service in terms of structure/input, processes/ client and provider interaction during the service and output in terms of client perspective/satisfaction and clinical experience of EMONC service and finally describes the overall quality of institutional delivery service. All three elements are interlinked to bring quality delivery care service. Therefore, this chapter assessed the quality of delivery care at public hospital including structure, process and output dimentions and factors that affect quality service including the relationship of maternal satisfaction with input and process components of delivery quality. All these help to guide the development of best practice guideline as it strongly considers the client experience.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a full description of the research methods and processes which were used to conduct the current study. This chapter also illustrates the study's design, setting, sampling procedure, data collection tool, and methods of data analysis. Trustworthiness and ethical considerations relevant to the study are also presented. This research has two types of research questions, each of which is addressed by both quantitative and qualitative research approach by using a mixed-method approach to explore the experience and views of participants towards childbirth care to develop the client-centred guideline.

3.2 Research philosophy

The unit of analysis in this study is the investigation of quality childbirth care to develop client-centred care. Research philosophy is important for the researcher to choose/fix on research design to reach the reality since philosophical ideas determine the appropriateness of the methodological process for research and it guides the researchers to approach data collection and analysis (Muhaise et al 2020:201, Žukauskas et al 2018:121) meaning which technique is important to assess quality childbirth care and also explore mother's experience.Quality care has multi-dimensional in nature to define and measures (Potter et al 2012:781-782; Austin et al 2014:4), therefore, the researcher critically considered the extent to which the methods might have break through the service delivery system to reach reality, to what extent whether or not it was being practiced and explore respondent's real experience of care in detail. Based on this belief, the researcher used pragmatism as a research philosophy based on the epistemology philosophy that there is no single way to learn reality but many different approaches of understanding reality are important because there are multiple realities (Onwuegbuzie 200:6; Maarouf 2019:2). Mixed researchers believed that using only quantitative or qualitative research approach is incomplete the research problems (Creswell 2014:4). But using different methods is meant to enrich and strengthen the research result by gaining a complete understanding of the phenomenon (Creswell 2014:4). Pragmatism is the philosophy that permits the mixing of quantitative and qualitative approaches in one single

study (Maarouf 2019:1). For this study, mixed design approach both for the healthcare professional (who are the caregiver how to practice quality childbirth care and their understanding and perception of care in the facility) and mothers who get the service was another important to understand their experience and expectation of childbirth care for developing client-centred care. Since qualitative research helps to understand people's perceptions and experiences that uncover thought and opinion by delving deeper into the problems while quantitative research is used to quantify the problems i.e (proportion of the problems, variables that associated with outcomes, and the relationship between variables) by generating numerical data or data that can be transformed into usable statistics.

3.3 Mixed method

Mixed methods research approach is an emergent methodology of research that advances the systematic integration, or "mixing," of quantitative and qualitative data within a single investigation. Such integration permits a more complete and synergistic utilization of data than do separate quantitative and qualitative data collection and analysis (Creswell and Plano Clark 2007: 5, Creswell 2013; Schoonenboom & Johnson 2017:108.).

Mixed methods research originated in the social sciences and it is recognized as a third model of research in social and behavioral sciences (Wisdom & Creswell 2013:1; Clark2010:430). But now it expands in health sciences (Creswell 2013:4; Guetterman & Creswell 2015:556; Ozawa & Pongpirul 2014:323) and promoted as an innovative health research design to address the complexity of the areas (Creswell et al 2011:6) sine most health science issues are complex owing to the multi-factorial and holistic nature of health and illness (Glogowska 2015:1; Bagnall et al 2019:1; Creswell et al 2011:2).

This Mixed method approach used when the complexity of the research problem cannot be addressed from the unique perspective of a quantitative or qualitative study (Creswell 2009; Ponce & Pagán-Maldonado 2015: 112-113).

There are two basic ways of combining or integrating quantitative and qualitative approaches as part of the design of a mixed-methods study. These approaches of integration are sequential and concurrent (Ponce & PagánMaldonado 2015:116, Caruth 2013:114; Creswell, 2014:32). In the sequential approach of integration, data are first

collected using one method followed by the second method (e.g. qualitative then quantitative). Whereas in parallel approach (convergent parallel design), the researcher collects quantitative and qualitative data at the same time /concurrently (Creswell 2014:75).

Even-though mixed method research follows diverse philosophical perspectives, mixed method research approach usually employed a pragmatic approach system of philosophy ((Jogulu and Pansiri, 2011, Greene 2007).

3.3.1 Selected Mixed Method

There are many definitions of the mixed methods approach and there is no one agreed-upon standard definition. For this study, mixed methods are defined as an approach that utilises a convergent parallel/concurrent pragmatic paradigm.

3.3.2 Rationale for conducting the Convergent Parallel Mixed Method

mixed methods research allows researchers to have good opportunity to gain a more meaningful understanding of problems and answer research questions than using quantitative or qualitative data alone (Halcomb & Hickman 2015:14; Ozawa & Pongpirul 2014:324). Since the fundamental principle of such integration allows a more complete and synergistic exploration of data than using separate quantitative and qualitative data collection and analysis (Wisdom & Creswell 2013:1). It views problems from multiple perspectives and combines the theoretical and technical aspect of both qualitative and quantitative aspect of data (Creswell et al 2011:2; Ozawa & Pongpirul 2014:324).

Moreover, mixed methods research is used mostly when the complexity of the research problem cannot be addressed by quantitative or qualitative study (Ponce & Pagán Maldonado 2015: 112-113). Measuring quality is no simple task, as Elizabeth's health policy analyst explained. Since, patients, healthcare professionals and families define subjectively and objectively quality differently in their different translations and expectation (McGlynn1997:7). On top of this, the researcher used mixed research design to view problems from multiple perspectives, contextualise information, and develop a more complete understanding of problems (Ozawa & Pongpirul 2014:324) by assessing both the objective and subjective

aspect of quality childbirth care from the service giver and users in the facility to increase the possibility of the findings that are more complete measure and important to develop client centre guideline.

The quantitative approach measures the objective aspects of the problem whereas the qualitative paradigm is the subjective aspects of the problem or the experiences of the participants. (Ponce & Pagán-Maldonado 2015: 112-113). Therefore, mixed method research (MMR) could fill the gap in revealing “what” and “how” components of the quality delivery services phenomenon (Siddiqui & Fitzgerald 2014:1). For this study, the objective of the mixed study in the quantitative approach is used to measure proportion, factors that influenced quality delivery service, examining the relationship of the variables and understanding the best predictors of outcomes, and then the qualitative design is the best approach to assess a subjective aspect of quality childbirth care. On top of this, the researcher can understand the views, experience and expectations of mothers and healthcare professionals to develop client centre guideline.

3.3.3 Purpose of Convergent Parallel Mixed Methods

.The core purpose of the combination of these two methods/approach and using in one study provides a more complete understanding of the research problem than either approach alone when we believe the problem is complex and cannot be deciphered or fully understood from a single quantitative or qualitative approach and strength a study conclusion (Ponce et al 2015:115; Creswell 2014:32;Schoonenboom & Johnson 2017:115).Moreover, they provide validation for each other and also create a solid foundation for concluding the intervention (Wisdom & Creswell 2013:2). This approach allows the researcher to obtain enough information and a great degree of understanding to formulate, suggest and recommend a solution for better health service since one objective of this study is to develop a client centre guideline based on the study findings.

In general the purpose of convergent parallel mixed methods is to provide a comprehensive investigation of the research problem by converges or merges quantitative and qualitative data. In this method, the researchers typically collect both forms of data at the same time by prioritize the methods equally, maintain the data analysis independent, and then mix the results during the overall interpretation/discussion for developing client-centered guideline.

3.3.4 Research Setting

Ethiopia is located in the Horn of Africa between 3 and 5 degrees north latitude and 33 and 48 degrees east longitudinal (CSA Ethiopia 2008:2). It is a land-locked country, bordered by Eritrea, Somalia, Djibouti, Kenya, South Sudan, and North Sudan (CSA Ethiopia 2008:2) with an estimated population of over ninety million people in 2015 (CSA 2014). Its altitude ranges from 120 metres to 4, 543 metres. It encompasses about 1.1 million km^2 area of land and is characterised by diverse climate and topography with a marked difference in the climate conditions (CSA2007:3). The Federal Democratic Republic Government of Ethiopia has nine regional governments and each regional government is divided into zone level governments (Equivalent to Province) (BOFED 2006).

This study was conducted in Amhara region governmental health institutions (ARHIs). Amhara regional state is one of the nine regional states in Ethiopia which is found in North West Ethiopia, located at 565 kilometres from Addis Ababa, capital of Ethiopia. Administratively, the region has 11 zones divided into 167 districts and three city administrations (B/dar, Gonder, & Dessie). The total population in this region is 21,134,988 of whom about 4,897,566 are women. In the region, there are around 55 hospitals. Among these, five are referrals, 4 general and 46 primary hospitals, 839 health centres, and 3,336 health posts. A total of 42, 742 health facilities workers registered in 2016, from these 19,565 are health workers. Among these 1023 skilled birth attendants are found in the hospitals and the hospitals have 646 beds with these resources conducted around 84,440 delivery services per the year (2015) (ARUB Annual Report 2016). In this region, in the 2012/2013 fiscal year, it was planned to give ANC service for 97% pregnant women, and 60% were planned to be delivered by skilled attendants of whom 98% and 28% were achieved respectively according to 2014 regions report.

This study focuses on the three largest zones in the region, South Gonder, North Gondar, and west Gojam and the two largest cities, the state capital Bahir Dar, and Gondar. The Amhara region was purposely selected based on the institutional delivery service prevalence figure in the region was low 27 (EPHI &ICF 2016:137) and ther was no enogh published study on over all quality delivery servicese on the study area. The selected zones and cities were selected randomly with the total population in these zones and cities are 8,023,344 and 697, 792 respectively in 2012/13.

In the selected areas, 21 hospitals provide promotive, preventive, curative, and rehabilitative services to the community. Among these, the study is conducted on eight hospitals selected randomly; Felege Hiwot Referral Hospital, Gondar Referral Hospital, Deber Tabor General Hospital, Finote-Salam Primary Hospital, Merawi Primary Hospital, Addis-zemene Primary Hospital, Dangela Primary Hospital and Lay-gaynt Primary Hospital The eight selected hospitals were appropriate for this study since in 2015, a total of 18, 688 childbirths were attended in the target hospitals annually; Gondar Teaching Referral Hospital (5158), Feleghiwot Referral Hospital (5804), Deber-Tabor General Hospital (3167), Finote -Salam Primary Hospital (1419), Merawi Primary Hospital (1214), Adiszemen Primary Hospital(1017), Estie M/ Eyesus Primary Hospital(909) and Dangla Primary Hospital (2574). According to Amhara Regional Health Bureau Annual Report, 2015) also selected this hospital which gives MNCH service.

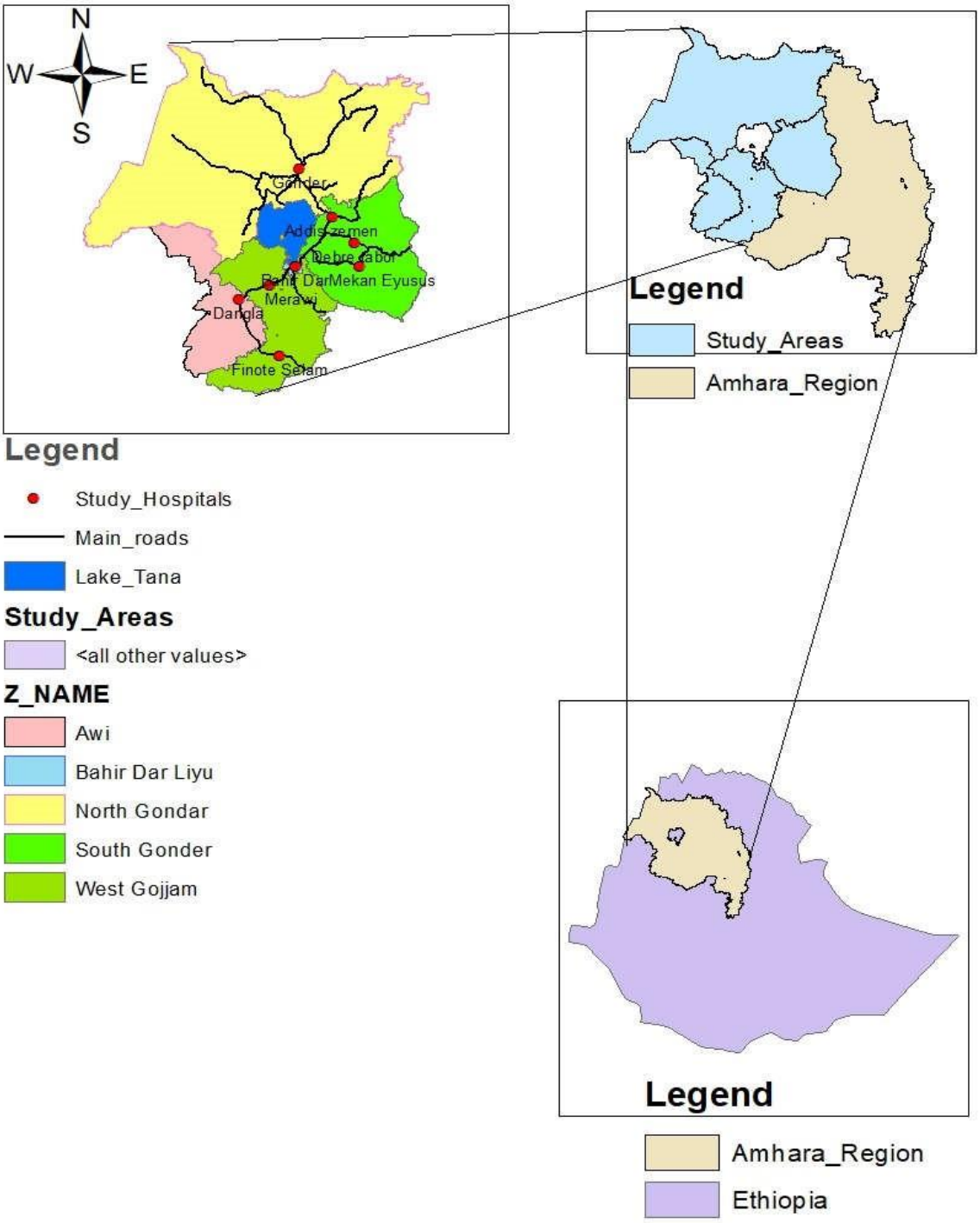

Figure 3. 1 Schematic presentation of study area.Amhara Region, North-west, Ethiopia 2020

3.4 Research design: quantitative and qualitative strands Convergent parallel phase 1

Research design is the research plan/roadmap that guides the researcher on how to systematically conduct studies to meet certain objectives during conducting the research (Ponce et al 2015:118). Quantitative and qualitative research designs are the two basic types of research approaches. When the researcher combines or integrates these two designs in one study, such type of research design is classified as a mixed design approach (Maarouf et al 2019:2, Creswell 2013:6; Ponce et al 2015). This approach resides in the middle of the two continuums because it incorporates elements of both qualitative and quantitative approaches (Almalki 2016:291; Creswell & Creswell 2017; Schoonenboom &Johnson 2017:108).

- **Quantitative**

Quantitative research is a mode of inquiry used for deductive research. The goal is to test theories, gather descriptive information, and analyse the relationship between variables using statistical methods to help to establish cause and effect. Furthermore, quantitative approaches used in the health sciences are descriptive surveys, observational studies, case-control studies, randomised controlled trials, and time-series design (Creswell 20111:4). For the current study the cross-sectional surveys and observational studies were used.

The qualitative approach is used to understand and describe the subjective aspects of clients, healthcare professionals, and attendants' perception towards the quality of institutional delivery service by using in-depth interview guidelines (Aspers & Corte 2019:147; Kalu 2019:97; Mack 2005:29).

- **Qualitative design**

Qualitative study is a systematic and rigorous form of inquiry that uses methods of data collection such as in-depth interviews, observation and review of documents. In addition, qualitative data help researchers to understand processes, especially those that emerge over time, provide detailed information about setting or context and emphasize the voices

of participants through quotes. For the current study, the in-depth interviews and document reviews were used to explore contextual factors associated with the quality of institutional delivery services (Jamshed 2014:87, Elmusharaf, 2012:4).

- **Mixed design: Convergence design using parallel phases**

The convergent parallel mixed method is a form of mixed methods design in which the researcher merges quantitative and qualitative data to provide a comprehensive analysis of the research problem (Creswell 2014:44; Ponce &Pagán-Maldonado 2015:117). In this study, the researcher simultaneously collected quantitative and qualitative data and analysis (Guetterman et al 2015:557). During convergent parallel design, the two methods have an equal priority (Creswell & Creswell 2017:2) so that both play an equally important role in addressing the research problem. This design keeps the study independent during the data collection and analysis and then mixes or merges the results for developing client centre guidelines (Creswell & Creswell 2017). The convergence design approach is used to study different aspects of the problem. The quantitative approach measures the objective aspects of the problem while the qualitative phase enters the subjective aspects of the problem or the views and experiences of the participants. Convergence occurs when the researcher integrate/merge quantitative and qualitative data interpretation on discussion section to have abetter understanding of the problem studied inorder to devlop client-cetered guideline (Ponce & Paga-Maldonado 2015:117; Guetterman et al 2015:557).

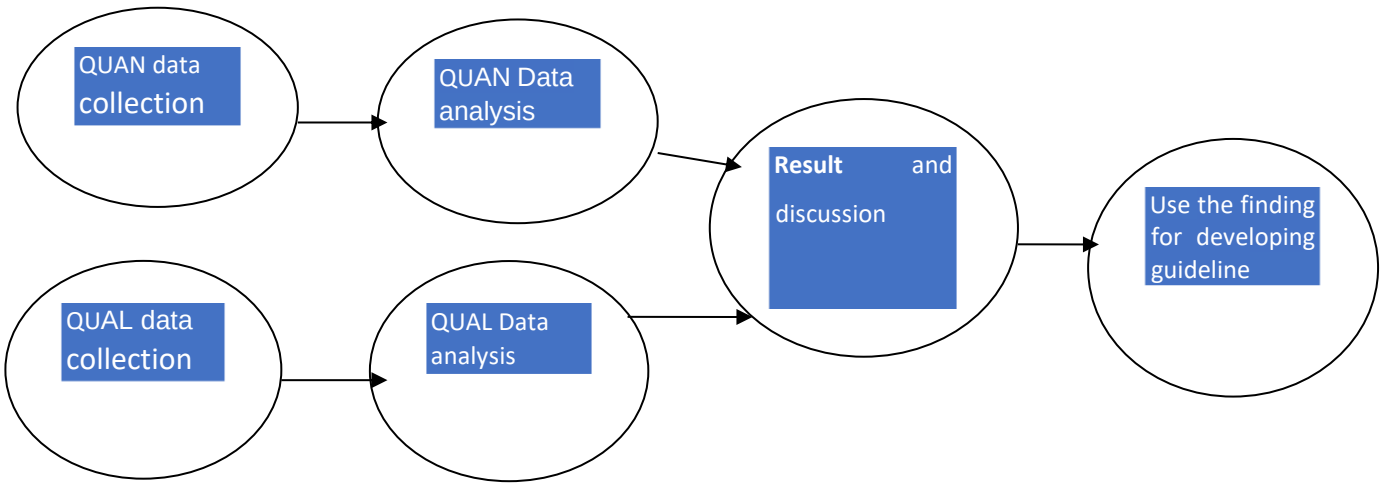

Figure 3. 2 Convergent parallel mixed design structure Amhara region, North-west, Ethiopia 2020.

(Source: Based on Wittink et al 2006).

Reason for mixed-method approach there are five categories based on the research purpose (Ponce & Pagán-Maldonado 2015:114; Chaumba 2013:331; Venkatesh et al 2013:26).

1. Triangulation: This involves the use of different methods to convergence, corroboration and correspondence of results to answer the same questions.
2. Complementarily: This is the use of data obtained through one method to enrich, elaborate, and clarifications data obtained from another method.
3. Development: This involves the use of results from one method to develop or inform the use of another method.
4. Initiation: It involves the use of different methods of the same phenomenon to identify contradictions or generates new insights.
5. Expansion: Here, different methods are used to address different questions

3.4.1 Purpose of Mixed Method

The purpose of using the mixed method in the current study was in sense of triangulate the methods by directly comparing quantitative (cross-sectional) result with qualitative findings (in-depth interview) for support and validation purpose and in sense of complementary method to illustrate quantitative results with qualitative findings to develop a more complete understanding of a phenomenon to develop the client-centred guidelines.

3.4.2 Objective I (quantitative)

A facility-based cross-sectional study design is used to assess the three Donabedian model components such as structure, processes, and output of quality measures.

- **Structure**

To assess structural attribute, a quantitative cross-sectional study design is used to determine the standard of the infrastructure of the health institution by using facility audit form to interview the head of the facilities about the availability of essential equipment, drugs, and supplies at the time of the survey in terms of quality delivery care service. Two labour and delivery healthcare professionals, head of maternity ward were selected

in each health facility by purposive sampling (the healthcare professional health care professional who have more experience based on the number of years he/she work in the delivery room and providing delivery services in the facility) and interviewed about the availability and adequacy of resources for delivery care service provision and we also asked pharmacist and laboratory technical about laboratory regent and essential drug for obstetric management since the head of the maternity could not fully answer the question about drug and laboratory reagents.

- **Processes**

To investigate the client's and healthcare professionals' interaction, direct observation and document review is used to assess the adherence of standard practices and women friendly care service of the service healthcare professionals. We used one in every three observation of data for analysis of each provider to avoid socially desirable bias (Edwards et al 2013:995; McCambridge et al 2014:267) supervisor observed the healthcare professional during history taking, physical examination, diagnosis, conduct delivery, and its management approach for the study subjects before the exit interview.

- **Outcome**

In this objective, maternal satisfaction was assessed in two ways by using a cross-sectional survey study. One in terms of an institution means how many hospitals give satisfied services descriptively by using structured questionnaire to assess maternal satisfaction and using document review for utilisation of EmONC. Secondly, in terms of participants to assess the proportion of maternal satisfaction and to testing which determinants strongly influence maternal satisfaction to develop client centre guideline and recommendation we used only exit interview.

3.4.3 Objective II (Qualitative)

- **Participants' perception**

An in-depth interview method was employed to explore the mothers, and healthcare professionals' beliefs and experiences related to the quality of institutional delivery services. The family members who accompany mothers for delivery services were also included in the

selected hospitals. The qualitative aspect of the study aims to explore all the subjective elements of the quality components of institutional delivery services to enrich the stated objectives to contribute to the development of the client-centred guideline.

The purpose of using in-depth interviews was to explore the complexity and in-depth nature of meanings and interpretations of quality services. An in-depth interview is helpful for the research to understand the context, obtain descriptions of phenomenon and develop a better understanding of the participant's words (Brounéus 2011:145; Rossman & Rallis 2003). In-depth interviews are more likely conversations than structured interviews having no predetermined answer. They have allowed the participants to broadly discuss their issues. During the in-depth interview, the researcher asked using a semi-structured interview and allowed the participants to explore areas pertinent to their experience (Brounéus 2011:145). The qualitative aspect of the study aimed to reach the findings by using in-depth interviews to explore the perception and experiences of clients towards institutional delivery services. The following are the sub-questions asked how the quality of delivery service is felt by you/women in the facility.

Probe (Triage system, human resource, drug supply, interpersonal care like emotional support, compassionate care)

What are the quality barriers you have observed in this facility?

Probe (starting from the gate during the examination, client handling, and supply)

3.5 Convergent-parallel quantitative and qualitative research method

The parallel convergent pragmatic mixed-method approach is used to assess the quality of institutional delivery service by using different data collection method based on the objective using exit interview, observation, document review, key informant interview, and in-depth interview for mothers, caretakers, and healthcare professionals simultaneously since based on the definition of mixed-method approach it focuses on collecting, analysing and mixing quantitative and qualitative data in a single study or series of studies.

3.5.1 Population Sampling and Sample methods: concurrent-parallel Quantitative and Qualitative research

- **Population**

A population is an aggregation of specified group of human beings or non-human entities such as objects, institutions, geographical area that possess some common characteristic defined by the sampling criteria by the researcher (Kumar 2011: 65; Polit & Beck 2012: 738).Sample is some elements or sub set of totality of the population (Polit and Beck (2012:274) that represents the entire population characteristics (Polit and Beck (2012:274).Another guiding principle in deciding on population is ensuring that there is enough data to support credible analysis and reporting (Marshall, Cardon, Poddar & Fontenot 2013:11).

3.5.1.1 For quantitative

The study population in this study encompasses (public health hospitals including referral, general and primary hospital in Amhara region, Ethiopia) and the participant populations were mother, who has utilized childbirth care services in selected hospitals, health provider who conducted delivery care services, head of the hospital, maternity head, and staff in the pharmacy and laboratory department in the selected hospital.

3.5.1.2 For qualitative

Mother who has utilized childbirth care services in selected hospitals, health provider who conducted delivery care services and family members who accompany laboring mothers were the population for this study.

- **Sampling and sample methods**

Sampling refers to the selection of a subset of persons or things from a larger population, also known as a sampling method (Fowler 2013) to represent the population (Levy & Lemeshow 2013). Sampling is divided into two main categories: probability and non-probability (Ishak & Bakar 2014:29-30; Acharya 2013:330). In probability sampling, the elements of the population have a definite chance, but not necessarily equal to being included in the sample. On the contrary, in non-probability sampling, the odds that a particular element could be included in the sample are unknown (Ishak & Bakar 2014:2930). Non-probability sampling strategy is also called convenience and purposive sampling. Even if, Convenience sampling entails the researcher's easy access to the research site (Acharya 2013:330)

purposive sampling is fundamental for choosing a sampling method for informant selection (Tongco 2007:147). For this study, both the probability and non-probability sampling procedures were used to select the participants that involve both the qualitative and quantitative data collection procedures to assess the quality of institutional delivery service in terms of objective and subjective aspects.

3.5.2 Sample size as determination for quantitative and qualitative

3.5.2.1 For quantitative.

The selection of sampling methods and determination of sample size are extremely important in research problems to draw correct conclusions (Singh, A.S. and Masuku, M.B., 2014). As Delice, A. (2010) states identification of sample size is essential for generalizability and reputability. Even if there is different method of sampling techniques in research, Specific sampling techniques are used for specific research problems because one technique may not be appropriate for all problems. (Singh, A.S. and Masuku, M.B., 2014) similarly, the researcher should decide on, an appropriate size for sample depending on the research topic, population, aim of the research, analysis techniques, sample size in similar research and the number of the subgroups in the sample (Davies, Williams & Yanchar, 2004), On top of this for the current study I used different sample size and sampling techniques according to the size of the population and research topic /objectives

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- **Sample size and sampling technique for Quantitative**
- **Objective I for structure dimension**

The non-probability purposive sampling technique was used in this study. Purposive sampling was the preferred technique because it enables the selection of key informants having enough information and who experienced labour and delivery services to provide enough information about the infrastructure of the institution. Following this, as it is mentioned above from each selected hospital, I have selected key informants who are the heads of the institutions, skilled healthcare professionals who are experienced from maternity word, pharmacists, laboratory technicians, and MHIS experts were selected as study participants.

- **Objective I for process dimension**

In the selected hospitals, there were 381 skilled healthcare professionals/ midwifery skills (ARHB. 2016) and among these, I have selected 192 midwives by using the Rao soft formula (WWW.raosoft formula.com). The study subjects had been allocated proportionally such as Dangela Primary Hospital 40, Finoteselam Hospital 34, Merawi Hospital 20, Felege Hiwot Hospital 8, Gondar Hospital 10, Debretabor Hospital 60, Adis-zemen Hospital 20, and Esite M/eyesus Hospital have 19 skilled delivery healthcare professionals. Among these, 20, 17, 10, 44, 51, 30, 10, and 10 respectively skilled healthcare professionals had been selected from each maternity ward and then the data collector observed the healthcare professionals while they attend labour and delivery starting from active first stage lobber up to immediate postpartum care in the selected public health hospitals. During the data collection, non-participatory observation takes place sequentially by excluding the already collected data about skilled healthcare professionals until the predetermined sample size was obtained. To minimise observation bias, the first two observations were excluded from the data.

Table 3. 1 Sampling formula (Raosoft formula) for observation

Sample size calculation for Objective two (processes)		
1	Error	5%
2	CI	95%
3	population	381
4	Sample prevalence	50%
5	Sample size	192

WWW.raosoft formula.com

- **Objective I for outcome dimension**

A multistage sampling technique was used to select the study units. There are 11 zones and 55 functional public health facilities/hospitals in the study area. from these 11 zones, three of them (South Gonder, North Gonder, and West Gijjam zone) were selected by simple random sampling techniques. According to ARHB MHS department reports, from the total 55 hospitals in the region, 21 hospitals were found in the selected three zones. From the total of 21

functional hospitals in the selected zones, two referral teaching, one general, and five primary hospitals total (eight hospitals) had been selected through a simple random sampling technique. The study participants had been selected proportionally to the client flow from each maternity ward such as FineoteSelam Primary Hospital 1419, Merawi Hospital1214, Felegehiwt Referral Hospital 5804, Gonder University Hospital 5158, Debretabor General Hospital 3167, Adiszemen Primary Hospital 1017, Dangela Primary Hospital 2574 and Estie M/eyesus Primary Hospital 909 Among these delivered mothers, 53, 46, 217, 194, 118, 38, 97 and 34 mothers are taken respectively.

All mothers who were admitted giving birth in the selected public health facilities during the data collection period are interviewed consecutively with the convenience sampling method to respond to the structured exit interview questionnaire until the predetermined sample size was obtained.

- **Objective I for outcome dimension**

. **Sample size calculation for exit interview (maternal satisfaction)**

For quantitative study

The sample size was calculated using a single population proportion formula with the assumptions of 95% confidence level, the margin of error (0.05), and considering the previous prevalence of proportion of mothers who were satisfied with delivery care 61.9 % (Tayelgn et al 2011). The above assumptions were substituted in the following formula.

$$n = (Z\alpha/2)^2 p (1-p)/ d^2$$

$$= (1.96)^2(0.619) (0.619/ (0.05)2$$

$$= 362$$

Where n = required sample size for this cross-sectional survey z = Percentiles of the standard normal distribution corresponding to 95% confidence level which equals to 1.96 (z value at α = 0.05)

P = Proportion of client satisfaction (61.9%)
d = 0.05 (5% margin of error)

By considering the designs effect of two, the total sample size was 797

The number of study participants from each maternity ward was allocated proportionally using the formula, nh= (Nh/N) n, Where nh= sample size in the maternity ward

Nh = number of mothers at a maternity ward in each selected health facilities (obtained from each health facilities delivery service achievement)

N = total number of mothers at maternity ward in all selected health facilities which is 18,688 (taken from all selected public health institutions' delivery service action plan), and n = total sample size which was 797

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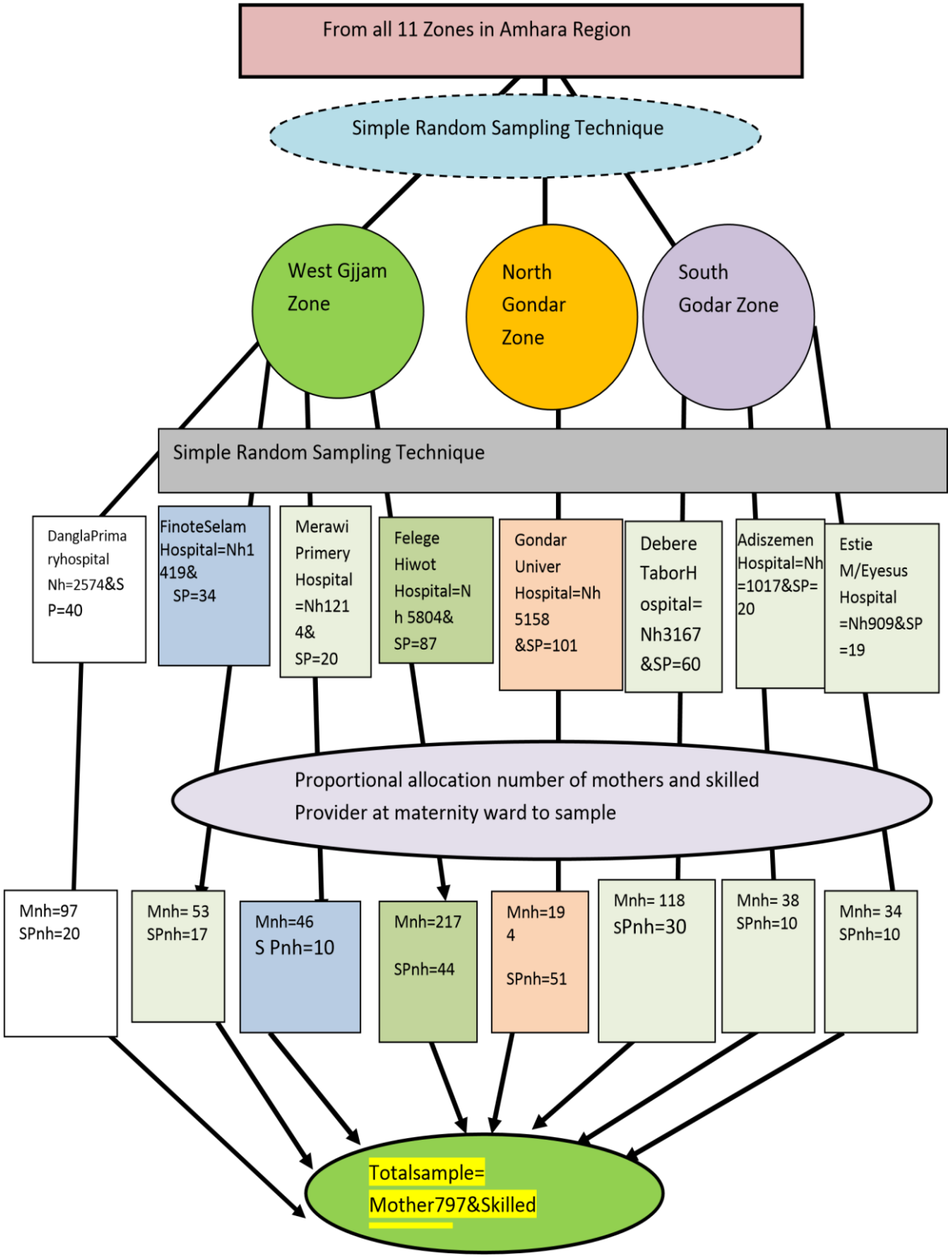

Figure 3. 3 Schematic representation of the sampling procedure for the study, Amhara region, North-west, Ethiopia 2020

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3.5.2.2 For qualitative

- **Sample Size and sampling technique for qualitative (Objective II)**

There is no predefined method to calculate the number of study participants in a Qualitative research. Malterud, Siersma, and Guassora (2016: 1756) suggest that the Sample for qualitative research should be based on the required information. Hence, data saturation is the guiding principle for sampling in qualitative research. The degree of data saturation is sampled to the point where it is impossible to obtain new information and achieve redundancy. In this study, the recruitment of research participants was continued until the data was saturated. Currently, other research subjects or interviews did not produce any marginal changes to the core data concepts

On top of this to explore contextual factors associated with the quality of institutional delivery services, purposive sampling technique was used. To select participants that were participated in the in-depth interview based on their experience/knowledge towards institutional delivery services, first, the groups that are potential individual were identified, then after careful identification of the groups, the in-depth interview participants were selected from each group and the adequacy of the number of participants was determined at the time of data collection based on information saturation principle.

3.5.3 Inclusion and exclusion criteria: quantitative and qualitative

Inclusion Criteria: -

For mother

- Attend labor and delivery in the selected hospitals and give birth vaginally for observational study
- Mother gives birth in the selected hospital and admits in the immediate postpartum word before discharged in the hospital.

For health providers

- Those health professional who works in the delivery word
- Head of the hospital and maternity word working at least 6 months
- Pharmacies working in the drug dispatching room working at least 6 months
- Laboratory technical working in the laboratory room working at least 6 months

For family members

- Those family members who accompany the laboring mothers.

Exclusion criteria

- Those mothers whose age under18.
- Mother came for elective caesarean section delivery
- Mother who had observable psychiatric or other critical health problems.
- Mother who had still birth for the current birth.
- Family members who had observable psychiatric problems.
- Health professional who has observable psychiatric problems

3.5.4 Data collection instruments: convergent-parallel quantitative and qualitative research

3.5.4.1 For quantitative

Multiple data collection instruments were used during the data collection period. Facility inventory checklist is used for addressing the first objective to interview the head of the facility and experienced maternity about the availability of equipment, drug, and supplies at the time of data collection period. For second objective observation checklist during delivery care service, the provision of comprehensive labour and delivery care services started from admission in labour ward till immediate post-partum period. The data collector observes the way of history taking, physical examination, diagnosis, delivery management, women-friendly services (technical and nontechnical /interpersonal aspects) and outcome of labour and delivery and the document about partographs usage was reviewed. For the 3rd objective, women's exit interview was used by preparing a structured face-to-face interview questionnaire that was adapted from WHO service availability and readiness assessment (WHO 2013:82; FMOH 2016), health sector transformation in the quality guide, and other maternal and child health integrated programme and USAID standards (ESA National Guidelines; Sholkamy et al 2003; FMOH 2010; CSA 2012). The questionnaire was designed to include socio-demographic information; labour and delivery conditions with neonatal outcomes were included. to assess the maternal perceived quality and their satisfaction about labour and delivery service provision and review the delivery registration book about the utilisation of

CEMONC service for the last three-month services before the data collection period respectively. Mothers attending the delivery service and participating in the observation study were enrolled during the study period for an exit interview.

3.5.4.2 For Qualitative

For the qualitative part, an in-depth interview guide was prepared separately for women who get delivery service, women's family members who accompany the women in labour, and healthcare professionals who gave the service. The interview guide is developed from the literature review and national guidelines based on the objective of the study. The guide contains multifaceted open-ended questions to address a range of issue related to experience, perception, and barrier of quality of institutional childbirth care. Audiotape recorders and notebook were used to capture the interviews and to ensure the researcher captured most of the data during data collection.

3.5.5 Pilot studies: convergent-parallel quantitative and qualitative research

3.5.5.1 Purposes and results of pilot studies

Pilot studies are one of the important stages of research procedures as preparation of a full-scale study, regardless of the paradigm (Majid, Othman, Mohamad, Lim & Yusof 2017:1073). Even if Pilot study is a pre-test version of a research instrument before conducting the actual study (Fraser et al 2018:261.) it is closely related to a larger study (Eldridge et al 2016.). Pilot study is important for improvement of the quality and efficiency of the main study (Gani et al 2020: 140 and In, J., 2017).

Pilot studies should be done prior to the actual data collection for the purpose of testing the appropriateness of the research tools, and used to identify the flow, consistency, understandability by data collectors and respondents and used to estimate the time required to complete the interview (Bolarinwa 2015:196 and Jacob & Ferguson 2012: 2). And it is also important for content validity of scores, evaluating the internal consistency of tools and improves questions formatting (Creswell & Creswell 2018 C8:206-216). Moreover, to an experience and practice in conducting interviews for main research (Jacob &Ferguson 2012).

Prior to the study, 5% of the sample size in each objective was pre-tested in Abay-mado and woreta town primary hospitals. The reliability of the questions for indexed variables was

checked then variables with chronbach's Alpha <0.7 were excluded. The data collection tools were modified based on the findings of the pilot studies. The data from pilot study, health institution and town were excluded from the main study and also the results were not included in the main study as the purpose was to test whether the research questions generated appropriate responses or not. In addition, the pilot study assisted the researcher to improve the interview guide. Some modification was made in the interview tools. For example, some questions were rephrased and sequentially aligned.

3.5.6 Data collection: concurrent-parallel quantitative and qualitative research

Data collection is the process of gathering and measuring information on variables of interest that enables one to answer stated research question (Kibr, 2016:201). Researchers collect data in a mixed methods study to address the research questions or hypotheses (Creswell, J.W. and Plano Clark 2011). In mixed design, data collection method that involves a sequential or a concurrent approach (Schoonenboom &Johnson 2017:108) in Concurrent approach the investigator collects both forms of data at the same time and then integrates the information in the interpretation of the overall results (Creswell, 2014:206). Concurrent approaches have shorter implementation time since both quantitative and qualitative methodologies can be executed in parallel(Creswell, 2014:206).Concurrent mixed method data collection strategies have been employed to validate one form of data with the other form, to transform the data for comparison, or to address different types of questions (Schoonenboom &Johnson 2017:108). Both quantitative and qualitative methods have several data collection techniques for this study using a blend of data collection techniques (a facility survey, direct provider observation, document review, client exit interview and for qualitative part in-depth interview.

3.5.6.1 Data collection procedure

3.5.6.1.1 For quantitative

Data collection was conducted from 01 February, up to April 30, 2018, in Amhara Region selected hospitals. The data were collected by interviews, observation, and document review. By starting face-to-face key informant interview, non-participatory observation during childbirth about client and provider interaction and the competence of healthcare professional,

document review and a face-to-face exit interview for delivering mother while discharging from the maternity ward by using a pre-tested facility audit checklist, observation checklist, document review format (how to plot the partograph chart and CEmONC services), and structured questionnaire respectively. The questionnaire was prepared in English and translated to Amharic which was the national language in Ethiopia and spoken well in the region and study area. Pretesting was done in two hospitals that was not included in the study area to prevent diffusion of information and then necessary modification was done before the actual data collection. There were seven master's in clinical midwifery as supervisors and 14 BSC midwives who have data collection experience and who are working in health institutions other than the study area were used as data collectors to avoid observer and social desirability biases. The training was given to data collectors and supervisors for two days about the overall objective of the study, ethical considerations, sampling procedures, data collection tools, procedures, and how to supervise and collect the data. The interviews are conducted in the Amharic language after questions were pretested for cultural appropriateness and clarity.

3.5.6.1.2 For qualitative

The semi-structured interview guide was used to conduct in-depth interviews with skilled birth attendants, mothers who delivered in the selected hospital and attendants who accompany the women in the delivery ward about their experiences and perception of the quality of institutional delivery services parallel with quantitative date collection from 01 February, up to April 30, 2018. The interview guide was prepared in English and translated to Amharic which is the national language in Ethiopia and spoken well in the study area. The questionnaire type was open-ended as it enabled participants to explain more on the problem. For example, how do you perceive quality institutional delivery services care? This is an open-ended question that initiated the discussion. Then probing questions helped to explore the client and provider perspectives on quality delivery services was used.

3.5.6.2 Validity and reliability as well as Measures to ensure trustworthiness

3.5.6.2.1 **For quantitative**

- **Validity**

Validity refers to “the degree to which the instrument measures what it is supposed to be measuring” (Saunders et al 2009 & Saunders & Rojon 2014:3). The researcher mostly focused on content and criterion validity. Content validity includes the degree that a measure covers the breadth of the domain of interest (Mohajan 2017:16; Zikmond et al 2010). Criterion validity is the ability of a measure to correlate with other standard measures of similar constructs or established criteria (Mohajan 2017:17). This refers to the accuracy of an instrument to measure the factors under study. Therefore, content validity will be concerned with how accurately the questions asked to tend to elicit the information required. For the current study, the research instrument was developed from national guidelines and giving the questionnaires to the maternal health expert and experienced clinical staff.

- **Reliability**

Reliability refers to the precision and accuracy of the instrument during the data collection techniques or analysis procedures yielding consistent findings (Saunders, et al 2009; Mohajan 2017:12). Reliability is defined as an indicator for measuring internal consistency which is the key to understanding reliability. It is a measurement reliable when different attempts at measuring something converge on the same result (Malhotra, 2010:318; Zikmond et al 2010). Therefore, for the current study, the researcher selected experienced data collectors and supervisors, and training was given. After training, pretests were conducted for three key informants, ten healthcare professional for observation and 40 mothers for exit interview out of the research area to check the consistency of responses to each question. After analysing the pretest results, the necessary modification was made accordingly to avoid ambiguity and leading respondents to a particular answer to ensure reliability of the tool before the actual survey. The supervisor and principal investigator closely followed the day-to-day data collection process and ensure completeness and consistency of the collected data daily. Moreover, multivariable analysis is used to control confounding factors.

3.5.6.2.2 For qualitative

- ***Trustworthiness***

One of the major issues for qualitative researchers is to have clear and appropriate criteria that will help to justify their research approaches (Cao 2007:443). According to Lincoln and Guba (1985), trustworthiness is the main criteria for evaluation and judging quality of

qualitative research (Elo et al 2014:2). Since in seminal work in the 1980s, Guba and Lincoln, trustworthiness is a parallel idea that substituted reliability and validity to give a clear indication and trust for the redress, how qualitative researchers establish that the research findings are credible, transferable, confirmable, and dependable (Morse et al 2002:14). Since trustworthiness is often presented by using terms such as credibility — the truthfulness of findings, transferability — the applicability of the research findings to another setting or group, dependability — the consistency and reproducibility of the research results, and conformability—the research findings being reflective of the inquiry and not the researcher's biases (Elo et al 2014:2; Cao 2007:443).

- **Creditability**

Credibility deals with how the researcher is confident in the truthfulness of the research findings (Creswell & Miller 2000). Credibility is the most important criteria of the study and it is analogous to internal validity of the quantitative study (Connelly 2016:435). Credibility of the research ensures the accuracy of the study findings by using a different method of assuring creditability. Techniques that are used to establish credibility include triangulation, prolonged engagement with participants, persistent observation, peer-debriefing, member checking, and reflective journaling (Connelly 2016:435). For this study, we used triangulation and member checking.

Triangulation

Triangulation used by comparing views from different participant perspectives such as healthcare professionals, mothers and family members who accompany the labouring mothers to enhance data source.

Member checking

Member checking, also known as participant or respondent feedback, is a technique for exploring the credibility of result through which the participants check and evaluate the research findings to determine if its descriptions, themes and interpretations accurately reflect their viewpoints (Yilmaz 2013; 321)

In this study, semi-structured interview guides, audio records, and filed notes were used, and all records were checked against transcripts. Interview transcripts were talked by all healthcare professionals to participate in the study on the phone when the study area far from the researcher and by physical presence when the participants near to researcher to confirm the accuracy of facts and observation. Moreover, the researcher has consulted experienced research colleagues in addition to advisors to get constructive comments by giving the interview transcripts. The two consulting experts have good experience while doing their PhDs from University of South Africa (Unisa) and after obtaining their PhDs from Unisa they have maternal health working experience in Addis Ababa University and Deberberhan University Hospital.

- **Transferability**

Transferability is the extent to which findings are useful to persons in other settings (Connelly 2016: 435). This means transferability is the capability of which the qualitative study finding is generalised in other settings (Bhatacherjee 2012:111). This is a form of external validity analog to generalisation in the quantitative study (Gunawan 2015:4). Researchers ensure the study's transferability with a rich, detailed description of the context, location and people studied and by being transparent about analysis (Connelly 2016: 435). In this study, the researcher supports transferability by a clear description of the participant's background, methods, and data interpretation of the findings

- **Conformability**

Conformability refers to the degree to which the findings reported in research can be independently confirmed or corroborated by others (Bhattacharjee 2012:111). Conformability is verified if the study's participants agree with the inferences derived by the researcher. In this study, conformability assured by the transcribed data were presented for participants in the near hospitals, especially for a health professional who participates in the study and for far study area we discussed on phone. In addition to the initial impressions of raw data, analysis notes and interpretation of data were documented, and experts reviewed the whole process to ensure conformability.

- **Dependability**

According to Korstjens and Moser (2018:12), dependability refers to the stability of data time and over conditions like reliability in the quantitative study (Bhattacharjee 2012:110). Dependability involves participants' evaluation of the findings, interpretation and recommendations of the study that are supported by the data as received from participants of the study (Korstjens & Moser 2018:121). To ensure dependability, consistency of explanation is presented across coherent themes (Lemon & Hayes 2020:608). Moreover, the dependability of data can be established through audit trials to confirm the research steps taken from the beginning of a research project to the development and reporting of the findings (Korstjens & Moser 2018:12).) In this study, to ensure dependability, first, keep all raw data documents for decisions making purposes during data collection and analysis and providing the documents for independent reviewers to cross-check or verifying the transcripts against the audiotape records that indicate consistency with the original transcripts. Based on this, some of the interview transcripts were reviewed by two different independent reviewers against the original audiotape records and they confirmed consistency with the original transcripts. The independent reviewers also reviewed the themes and sub-themes that were developed by the investigator from the data to ensure dependability

3.5.6.3 Respondents and Participants: Concurrent-parallel quantitative and qualitative research

3.5.6.3.1 For quantitative

For Objective: I structure dimension

For this objective (structure), the respondents/ participants are the head of the facility and delivery care service healthcare professionals who have more experience based on the number of years and he/she works in the delivery ward and providing delivery service in the selected health institution (Hospital). They can give a response for overall the infrastructure of the institution and the interview about the availability and adequacy of resources such as essential equipment, drugs, and supplies for maternity care service provision. Pharmacists and laboratory technicians were also consulted when the head of maternity did not answer overall.

- **For Objective: I process dimension**

The study respondents for the client-provider interactions were both labour and delivery service healthcare professionals in the maternity and postnatal wards during the data collection period and clients that get intrapartum and immediate postnatal service during the data collection period in each selected facility.

- **For Objective: I outcome dimension**

The research populations for this study were clients who gave birth and received delivery and immediate postpartum care service in the selected hospitals in North West Ethiopia. This population creates the whole reason for the existence of quality of delivery care services in the region.

3.5.6.3.2 . For qualitative

- **For Objective II**

The research Respondents for this study were a mother who was admitted to the maternity ward after delivery, a skilled healthcare worker who works in the selected hospital, and attendants who accompany a woman to get delivery services.

3.5.6.4 Ethical Considerations: concurrent-parallel quantitative and qualitative research.

In this study, all ethical approvals were carried out according to national and international biomedical research involving human subject guideline requirements in the research process to protect the interests of participants and organisations (WHO and CIOMS 2016:12). In this research, all ethical criteria were carried out throughout the research process to protect the right of participants and institutions.

- **The Institutions**

Ethical clearance was obtained from the Research and Ethics Committee, Department of Health Studies, University of South Africa (UNISA) (see ANNEXE 1). Then permission letter was taken from Amhara National Regional Research Institute Bureau (See ANNEXE 2). After submitting approved letters for each Hospital administrative at different level of West Gojjam and South and North Gondar Zone and head of the maternity ward in the selected sites were

communicated through formal letters (See ANNEXE 9). Then after all medical directors and the Departments of Gynecology and Obstetrics of the respected hospitals were allowed the study to be conducted. Finally, the information is collected after obtaining verbal consent from each participant.

Participants

- **Informed consent**

Written consent was obtained from each participant after full information was providing for the participants about the purpose of the study, estimated duration of the interview, and their rights to participate or withdraw from the study at any time to make an informed decision. researchers were obliged to provide accurately and enough information about research to participants to make participants voluntary and rational decision about their participation (Judkins-Cohn et al 2013:36-37; Greaney et al 2012:39-41).

Informed consent was also obtained from both the clients and healthcare professionals about non-participatory observation during labour and delivery process. Regarding in-depth interview by using audiotape recorders and notebooks, written consent was obtained from each participant after full information was given about the purpose of the study and their right to discontinue at any point of the interview or not answer any question if they feel discomfort (See ANNEXE 3 and 4).

Confidentiality and anonymity: - According to Greaney et al (2012:40-41) Confidentiality and anonymity are ethical practices designed to protect the privacy of human subjects while collecting, analyzing, and reporting data. Confidentiality refers to unraveling or modifying any personal, identifying information provided by participants from the data to other people without their permission, anonymity refers to collecting data without obtaining any personal, identifying information.(Creswell 2014; Polit & Beck, 2012: 342) Typically, anonymity is the procedure followed in quantitative studies, and confidentiality is maintained in qualitative studies. To ensure this in the current study the participants' right to confidentiality and anonymity were protected by implementing the following measures:

1. Names and phone numbers of all the participants were not recorded in all type of questioners while collecting data. instead used code

2. The researcher made sure that the filled questionnaires were confidential, secured by locked up in a secure place and the files in the computer were password protected.
3. Again, the researcher assured for the participants no information given by them were disclosed for others except the researcher groups. The information that collected from the participants was used only for research purpose.
4. All data collectors were signed confidentiality agreements
5. The participants were also assured that the tapes that contained the interview information would be erased after transcription of the interviews and this has been done.

Privacy and dignity: - The protection of privacy means protection of human dignity (Florida (2005, 2006, 2013) and according to Sieber (2001), privacy refers to “persons and to their interest in controlling the access of others to themselves. Beckmann (2017:17), stated that privacy expressed more in field of research in this ways “rules” the right to refuse to be interviewed, the right to refuse to answer any question and the right to refuse to be interview at meal time. According to Mouton (2001, 243) states as cited by Beckmann (2017:17 researchers must be extremely watchful in respecting the right of subjects to privacy. In this study the researcher implemented privacy and the participants’ dignity by taking the following measures.

- The interview was conducted after a mother was discharged from the delivery ward by arranging a comfortable and isolated place to regulate clients’ privacy
- Regarding healthcare professionals and attendants based on the site and time that the participants preference (not in busy time and inconvenient place for data collection). For example, the interview was conducted for attendants after the mothers gave birth in attendants reception room and after morning and afternoon round session in isolated room.
- The researcher did not collected data during mother feel pain and on procedures without her interest.

Respect for participants as Horner (2003,268) states cited in Beckmann(2017:7) the principle of respect for research participants foster and enhances the self-determination(self-governance) of others and refrains from interfering with free choice and strives to protect vulnerable persons as much as possible. Meaning that the research

participants must have full information regarding the risk and benefit of research before participated in research and the researcher should enjoyed to give truthful information for the participants and give respect for their decision (whether participate or not) since giving information is the process of informed consent.

To ensure this in the current study, the participants' right to get full information before in engaging the study was respected. First, all points of risk and benefit of the research participation well prepared in written document and attached to each questioner in the first page, then the data collectors must read the consent form before the participants decision and respect their decision.

Bias: - Bias is defined by the Oxford Dictionary as: 'an inclination or prejudice for or against one person or group, especially in a way considered to be unfair'; 'a concentration on an interest in one particular area or subject'; 'a systematic distortion of statistical results due to a factor not allowed for in their derivation' (http://www.oxforddictionaries.com).

Bias exists in all research studies, even if researchers should attempt to minimize bias. Research bias can occur at any phase of research, including study design or data collection, as well as in the process of data analysis (Pannucci, & Wilkins 2010:1; Smith & Noble 2014.) that brings distortion in the results of a study (Polit & Beck, 2014). In the research process, bias is difficult to avoid completely. A carefully designed study is likely to be relatively free of bias, but its elimination cannot be guaranteed Siddiqi 2011). Therefore, researcher awareness of bias at all stage of research process it increases the likelihood of minimising bias on research (Ali and Yusof, 2011). To minimize bias in the current study the researcher implemented the following measures

- To minimize sampling bias probability (random) sampling for quantitative and purposive sampling technique for qualitative was used in this study
- Pretest was done for all tools and measure was taken to standardize the tools
- Interview guide was developed for qualitative data collection.
- Training was provided for all data collectors and supervisor, how to proceed the data collection activities by considering how to minimize bias
- To minimize social desirability, bias the data collectors and supervisor were selected out of the study hospitals workers (staffs).

- To minimise observation bias, the first two observations were excluded from the data analysis.
- Curtin and Fossey, (2007) one strategy to minimize recall bias is to back up the information using multiple sources. For this study, multiple data collection method such as document review, interview and observation are applied.

- **Beneficence and non-malfeasance**

The principle of beneficence holds that each person should do good for others when possible and as well as a need to maximize well-being; while non-malfeasance means someone should not harm others (Vanclay 2013:245). Researchers should protect the participants from any injury and harm during the research process. In this study, the researcher assured participants to be able to refuse and interrupt if she wants from participating in the study. This situation would not also interfere with to use of any service in the facilities. Moreover, the researcher gives priority to the participant's health condition during data collection. Therefore, mothers were not interview while experiencing pain, any intervention, and treatments. Also, health professionals who participated in the study were not interviewed while they are busy in care and they were interviewed while having convenient time in the working area without interfering with their activities.

3.5.7 Data analysis: concurrent-parallel quantitative and qualitative research

3.5.7.1 For quantitative

Both descriptive and inferential statistic was used to assess facilities quality delivery serves and its determinants. The collected data were cleaned, coded and entered into Epi data version 7.2.1.0 statistical software and transported to SPSS version 23 for data cleaning and analysis. Before the data analysis, the data were screened for missing and data entry errors using the frequency distribution of the variables and observation of the entered data. Suspected errors were validated against the raw data and the necessary corrections were made. Both descriptive and inferential statistics had been used to analyse the data. Descriptive statistics in the form of frequency, percentages and cross tabulated analysis were done.

Reliability tests (inter-item correlations, corrected item-to-total correlations, and Cronbach's alpha) were also performed. The Cronbach's alpha coefficient was performed to assess the internal consistency of each item by giving equal weight for all assessed items. The alpha coefficient value of 0.70 or above was considered as evidence of adequate reliability (internal consistency) for each quality component items.

According to the measurement model fitness by Hosmer and Lemeshow, the analysis test the p-value ≤ 0.05 was performed by randomly inserting some of the variables whether the proposed items correctly explained the outcome variables. The quality of institutional delivery services in providing intrapartum care is determined by calculating the performance scores across each three quality components. The score for each item was calculated based on the number of respondents/observations for each quality domain. When 75% of items answered yes for a given item, then that item was scored as 'one' otherwise 'zero'. Finally, each hospital categorised as good/poor quality was determined by the number of overall yes scores from the total each quality domain (input, process, and outcome) items were measured using 73,98, and 21 satisfaction plus 9 CEmONC signal function items) respectively. The UNFPA approach, which is commonly used in developing country, was used as a benchmark to categorize health facility for its quality (USFI 2017) Based on this each, hospital is categorised as providing "good" quality in input, process, and outcome if it scored 75% and above of the items intended to measure the respective quality domains otherwise classified as performing below the standards/poor quality.

Lastly, it assessed the overall quality of institutional delivery services by combining input, process, and output quality delivery service at the facility level. Hospitals were categorised as standard/good quality if facilities with the scores 75% or more in all the three components of quality domains. Otherwise, it is classified as below the standards.

To summarise findings of facility inventory, some items required to be assessed using both interview and observation methods. The observation responses were considered. For example, availability and functionality of vacuum was assessed through interview of the head of the maternity ward and observation for the existence and functionality. In this case, data from observation are valid. The response of each item was coded 0 for "No" and 1 for "yes" and equal weight was given for each item. Percentages of facilities having ≥75% and less than 75% of the resources in each category were computed.

- **For objective I Input quality dimension**

Input quality was measured by using a total of 73 items which was developed from national guidelines (FMOH 2016:43-66; Fisseha et al 2017:3). Internal consistency of the items was checked by using Cronbach alpha model (α=0.712). The unit of analysis was health facilities. The response of each item was rated 1 for 'yes' and 0 for 'No' by giving equal weight for all assessed items. Finally, hospitals were categorised as providing good quality if it scores 75% and above for each input quality domains.

- **For objective I process quality dimension**

Process quality was measured using a total of 98 items which was developed from national guidelines (FMOH 2016). The internal consistency of the items was checked by using the Cronbach alpha model (α=0.860) by giving equal weight for all assessed items. Items address the main components of intrapartum activities starting from admission to immediate post-partum care incorporating different cares, such as rapport building between skilled health worker and women and her companion, physical examination in all stage of labour, infection prevention, evidence-based practice postpartum care for both the mother and newborn and client-provider interaction throughout the service. The score for each item was calculated based on the number of observations. As mentioned above, when 75% of observations answered yes for a given item, then that item was scored as 'one' otherwise 'zero', for example, Adiszemen Primary Hospital has ten observations, of these if more than 6(75%) observation are responded as yes for each item recoded as 'one'. Finally, each hospital categorised as good/poor quality was determined by the number of overall yes score. Then each hospital categorised providing good quality if answering 73(75%) and above process quality items.

- **For Objective I outcome dimension**

Output quality was measured by both maternal satisfactions after delivery and comprehensive obstetric and newborn care (CEmONC) service utilisation at the hospital level. A total of 21 Likert scale items which was adopted from national guideline to assess maternal satisfaction (FMOH, 2010 and 2016; Banke-Thomas et al 2016; Fisseha et al 2017) and ranged from strongly disagree (1) to strongly agree (5) were used to measure satisfaction. Also, for the utilisation of CEmONC, ten signal functions were adopted from WHO (Gabrysch et al 2012:1)

were used. The internal consistency of the items was checked by using the Cronbach alpha model (α=0.794) by giving equal weight for all assessed items. To assess the overall output quality; first, separately assess each facility based on the standard care by considering the mothers' score level was linked to the hospital level by calculating the average score the mothers cared at the hospital. If the mothers scored 75% and above, the satisfaction items considering the hospital gave satisfied service to mothers and the hospitals were categorised as providing CEmONC service if score at least 75% and above of CEmONC Components. Then the two output quality scores were combined to produce the overall output quality. Finally, the hospital was categorised as good quality service if they scored at least 75% on both output components.

Chi-square test was used to identify significant differences between each quality components such as input, process, and output. The magnitude of the association between different variables about the outcome variable is measured by the odds ratio with a 95% confidence interval.

- **Logistic regression analysis for objective III**

Binary logistic regression analysis is used to assess the association between various variables with the quality of institutional delivery services. The strength of the statistical association is measured by adjusted odds ratios and 95% confidence intervals. Statistical significance is declared at $p<0.05$ and variables that showed $p\leq 0.02$ in the bivariate analysis were included in the final model (multivariabel logistic regression analysis). This analysis predicts the value of one dependent variable from one or more independent variable is dichotomous. Therefore, multivariable logistic regression was an appropriate model for data analysis and hierarchical regression model was used to increase the statistical strength to measure which factors determine the maternal satisfaction (whether maternal factors or intuitional factors were important to determine maternal satisfaction towards quality of institutional delivery care services). This model performed after univariable binary logistic regression was used to select the variables associated with outcome variable in each level then after hierarchical regression model run which variables explained statistically significant

amount of variance in the outcome variables after controlling for all other variables. The hierarchical regression model is a statistical treatment that allows how variables of the same hierarchical group compete since the entry of a group is once (Senna et al 2020:3). Numerous regression models can be built by adding variables to a previous model at each step according to the level or group of variables to determine whether the newly added variables show a significant improvement in R2 (proportion of variance explained in the dependent variables by the model) (Lewis 2007).

In this study, two levels were used (models) the first level (model I). The first model includes maternal factors such as demographic factors like (level of education, income, occupation, and marital status) and obstetric factors (number of ANC, mode of delivery, and number of under 5 children). Model II includes institutional factors such as type of hospital, input quality and process quality. The ability of each model to explain the dependent variable and the diference between the models explained by R^2 and also to explain maternal satisfaction significance p-value ≤0.05 was considered as cut of point. Therefore, hierarchical regression model describes the relationship of input and process domain towards maternal satisfaction.

- **Principal Component Analysis (PCA)**

Principal component analysis (PCA) is widely used in data processing and reduction techniques. However, PCA provides a set of linear combinations of the observed variables that account for the largest proportion of the total variance (ZOU et al 2006:265). During the analysis, important assumption was used, and measures of sampling adequacy and communalities scores were checked.

The index of wealth status was computed by the PCA from the 12 variables (presence of house with corrugated iron sheet roof, own farmland, house furniture like bed/chair/ kitchen-cabinet, own toilet facility, mobile phone, electricity, number of oxen/cows, horse/mules/donkeys, sheep/goats and chicken, Tuff/barely/whet, bean/pea/maize, paper/Gisho, potatoes, TV). Initially, 23 variables were considered for the analysis, but 11 variables were dropped as their communality scores were below or above the median, first, if the variable frequency is below five and above 95 it was not eligible and removed from the variables then the eligible variables were dichotomised by using median the median is 2 ultimately, four principal components with Eigen values greater than1(depict as points" above the elbow" on a screen plot) were identified for the index construction. The components

explained 68.5% of the total variance which was above the recommended minimum value since the Eigen recommended value is 60% (Winters et al 2016:4). Wealth index values were calculated by summing up the scores for the four components. Finally, the index was developed to categorise the sum of components into three equal parts, and the parts were ranked from the poor to the rich quintile.

3.5.7.2 For Qualitative method for objective II

We used the thematic analysis approach since it enables the researcher to clearly and transparently indicate the analytical processes by showing a series of interconnected stages that enable the researcher to move back and forth across the data until coherent and meaningful patterns emerge (Vaismoradi et al 2016:100; Ritchie & Lewis 2003). Content analysis is also used by following the steps of qualitative data analysis which starts with data transcription. Data were written word by word to be undertaken on the same date of each interview, again the Amharic transcription transcribed and translated into English transcription. Each of the transcripts read repeatedly to identify recurring ideas to come up with final transcripts that are ready for analysis. The next step is reading to understand the content, concepts, and coding to identify the emerging themes/ categories. Data were dispelled by reviewing and revising the coding to fully examine each important theme as it emerged from the data to extract meaning. Reducing the data by looking for patterns across categories or themes to sort out the most essential concepts and relationships is performed and interpreted the data.

Finally, data interpretation is done by identifying and explaining the data's core meaning based on the participants' perspectives. The analysis process is not a linear procedure, and it is rather a back-and-forth process of searching for meaning in the data (Vaismoradi et al 2013:399; Srivastava & Hopwood 2009; Darawsheh 2014). The final transcription was also transported to Open Code version 3.6.2.0 qualitative data management and analysis software.

3.5.8 Conclusions

In summary, this chapter has dealt with the research design, sample, sampling technique data collection process, data analysis, validity, and reliability of quantitative method as well as

qualitative measures to ensure trustworthiness and also it includes how ethical clearance was addressed. In this study, a pragmatic paradigm mixed (quantitative triangulated with qualitative) study approach was employed. This mixed approach was used convergent parallel mixed method for the quantitative facility-based cross-sectional study was used to assess the three components of quality facility delivery service and also for the qualitative study that was employed in the in-depth interview for clients and healthcare professionals to assess subjective components of client and healthcare professional experience and perception of quality delivery services

Tabular Summary presentation of methods applied in the dissertation

Table 3. 2 Summary of methods based on objectives of the study

Donabedian an	Objectives/research h questions	Study design	Study Population	Sample Size utilized	Data collection	Data analysis
Input	To Assess structural (input) quality of institutional childbirth care	(quantitative design) Facility & population- based survey	Key informant (Head of the facility, experienced provider in the delivery ward, pharmacist in the pharmacy room, and laboratory technical in the laboratory room.	24key informants and 8 selected Hospitals.	Interview with facility inventory checklist and observation	Descriptive analysis (text, tables, and graphs
process	To assess process quality of institutional childbirth care	quantitative design Health healthcare professionals & maternal interaction observation and document review survey	Health provider who conducted labour and delivery care in the maternity ward.	192 healthcare professionals who give childbirth care	Non participatory observation and document review while the healthcare professional provide labour and delivery care	Descriptive analysis (text, tables, and graphs and Logistic regression analysis for quantitative

Out put	To assess maternal satisfaction on childbirth care	quantitative design Population based cross sectional survey		Mother who gave birth in the study hospitals before discharged.		793 immediate postnatal mothers

	To assess maternal perception on quality childbirth care	qualitative design	□	in-depth interview Mothers who get delivery service, Health healthcare professionals and attendants	□	57particpants

CHAPTER 4

ANALYSIS, PRESENTATION AND DESCRIPTION OF THE FINDING OF THE QUANTITATIVE STUDIES

4.1 Introduction

The previous chapter described the research design and methodologies used to conduct the study. This chapter focuses on data management, analysis, presentation, and interpretation of research findings on quality delivery services from the quantitative study which are presented systematically. Furthermore, the chapter presents the findings and interpretation according to the data and type of analysis guided by the following objectives. The result of this research presents the quality of delivery services by merging the entire three quality domains according to the Donabedian quality assessment model, which is input, process and output quality domain after the entire three quality domain were assessed and presented separately from the selected eight hospitals. The findings are presented in table and figure by using descriptive, logistic regression, and hierarchal model analysis statistics according to the objectives.

4.2 Result of quality delivery service

4.2.1 Sociodemographic Characteristics

4.2.1.1 Socio-demographic characteristics of the participants who participated input study

The total participants of the study for input objective were 24 key informants of healthcare professionals from a total of eight selected hospitals which were included in the study. Among these, most respondents (key informants) in our study are male 22(91.6%). In terms of age, most of the respondents are between 25- 29 years old which is 20 (83.3%) of the total respondents. Concerning their level of education, position and working experience, most of the respondents are with degree level, maternity ward heads and with less than five years of working experience 21(87.5%) respectively.

Significantly higher proportions of study participants (Key informants) in the study hospitals were BSC midwives 18(75%) who was maternity ward heads and MHIS experts. The maternity ward heads in each primary hospital were responded almost all department items. (Table 4:1& Table 4:2)

Table 4. 1 Type of Hospitals involved in the study (N=8)

Type of hospital	**Number of respondents**	**Number of Frequency**	**Percent of frequency**
Referral hospitals	2	2	25
General hospital	1	1	12.5
Primary hospitals	5	5	62.5
Total	8	8	100%

Table 4. 2 Socio-demographic characteristics of key informants (N=24)

Variables	Number of Frequency	Percent of frequency
Gender		
Male	22	91.7
Female	2	8.3
age		
25-29	20	83.3
30-34	4	16.7
profession		
Midwife	18	75
pharmacists	2	8.3

Laboratory technical	1	4.2
Health officer	3	12.5
Position		
Head of the facility	3	12.5
Maternity department head	8	33.3
MHIS expert	5	20.8
Maternity staff	8	33.3
Experience		
<5years	21	87.5
>=5years	3	12.5

4.2.1.2 Socio-demographic characteristics of healthcare professionals Participated in process observation survey

During the observation, we observed 192 women during labour, delivery, and the immediate postpartum period. The delivery was managed by 192 healthcare professionals in the selected 8 hospitals. More than two-third of the healthcare professionals who gave the service were male 132 (68.8%), their work experience is within the range of 2-5 years (41.1 %) and 81(42.2%) of deliveries were conducted by degree level midwives except for referral hospitals whereas more than one-third of delivery were conducted by medical interns and MSC clinical midwifery students (Tabel4.3).

Table 4. 3 Socio-demographic characteristics of providers (N=192)

Variables	**Number of Frequency**	**Percent of frequency**
Gender		
Male	132	68.8
Female	60	31.3

Age		
21-25	60	31.3
26-30	98	51.0
31-35	28	14.6
>=36	6	3.1
Profession		
Midwife	116	60.4
Nurse/HO	7	3.6
Doctor	69	35.9
Work experience		
<2 years	75	39.1
2-4 year	79	41.1
>=5 years	38	19.8
Marital status		
unmarried	107	55.7
married	85	44.3

4.2.1.3 Socio-demographic characteristics of mothers who participated In output/maternal satisfaction/

In our study, 793 mothers who delivered in eight selected hospitals were involved, yielding a response rate of 99.49%. The mean (SD) age of the mothers is 26.94 (±5.655 SD) years. More than half of the participants were within the age range of 25-34 years. The majority 773 (97.1%) of respondents were from Amhara Region by their ethnicity, and 725 (91.1%) were Orthodox Christians by religion. Almost all 762 (95.7%) were married, and 254 (31.9%) were farmers. Of the total interviewed, 224(28.1%) were unable to read and write and 374 (47.0%) of respondents were in the poor family income category (Table 4:4).

Table 4. 4 Socio-demographic characteristics of mothers for Satisfaction survey (N=793)

Variables	Number of Frequency	Percentage
Age		
<25	293	36.9
25-34	399	50.3
>34	101	12.7
Marital status		
unmarried	17	2.1
married	759	95.7
other	17	2.1
Residence		
rural	280	35.3
urban	513	64.7
Religion		
Orthodox	722	91.0
Muslim	67	8.4
Protestant	4	0.5
Ethnicity		
Amhara	770	97.1
Agew	11	1.4
Tigry	5	.6
Other	7	.9
Education		
Unable to read and write	223	28.1
Read and write	41	5.2
gread1-8	157	19.8

Gread9-12	178	22.4
College	194	24.5
Income		
Poor	372	46.9
Middle	153	19.3
Rich	268	33.8
Occupation		
Student	30	3.8
Private	129	16.3
government	127	16.0
Non-government	11	1.4
Hose wife	217	27.4
daily labour	26	3.3
Farmer	253	31.9
Family number		
1-3	385	48.5
4-6	318	40.1
>=7	90	11.3

4.2.2 Obstetric characteristic of mothers who gave birth at public hospitals

About 713 (89.9%) of mothers reported that their first birth was when they were older than18 years. Three hundred eighty-seven (48.7%) of mothers had at least one live birth including the current baby, 57 (7.2%) of mothers have more than six live birth, and one hundred twenty-nine (16.2%) of mothers had a history of abortion. About 149 (18.8%) of the mothers do not have previous health facility delivery experience except 337 (42.5%) of primipara mothers. Of the respondents, more than half (68.6 %) of mothers have a demand for children in the future time (Table 4:5).

Table 4. 5 Obstetric characteristics of mother participated in an exit interview (N=793)

Variables	Number of frequency	Percent of frequency
Age at first marriage		
<18	269	33.9
>=18	524	66.1
Age at first birth		
<18years	80	10.1
>=18 years	713	89.9
Number of gravidity		
one pregnancy	337	42.5
2-5 pregnancy	377	47.5
≥6 pregnancy	79	10.0
No of live birth including the newborn		
1	387	48.8
2-5	349	44.0
>6	57	7.2
Do you have child death		
Yes	78	9.8
No	715	90.2
How many child death		
one child death	62	7.8
≥ 2 child death	16	2.0
Do you have under 5 children		
yes	456	57.5

No	337	42.5
How many numbers of <5 children		
1	261	32.9
>=2	195	24.6
History of abortion		
yes	129	16.3
No	664	83.7
If yes how many times abortion		
1 abortion	100	12.6
>=2 times abortion	29	3.6
Previous Institutional delivery		
Yes	307	38.7
No	149	18.8
If yes how many times		
1 delivery	186	23.5
>=2 delivery	121	15.3

4.2.2.1ANC and delivery characteristic of mothers who participated in maternal satisfaction

In the majority 705 (88.9%) of respondents, their index pregnancy was planned and 764 (96.3%) of mothers had ANC service for the index pregnancy. Among mothers who attended ANC 423(53.3%) mothers had four ANC visits. Regarding mode of delivery, spontaneous vaginal delivery was the most common mode of delivery 72.4% followed by cesarean section (14.6%) and instrumental delivery (13.0%) (Table 4.6)

Table 4. 6 ANC and delivery characteristic of mothers participated in the exit interview: (N=793)

Variables	**Number of Frequency**	**Percent of frequency**
Current pregnancy planned		
yes	705	88.9
No	88	11.1
Current pregnancy ANC follow-up		
yes	764	96.3
No	29	3.7
If yes number of visited		
Less than 4 times	251	31.7
Four times	423	53.3
More than 4 times	90	11.3
Place of ANC		
HC	480	60.5
Hospital	268	33.8
private clinic	16	2.0
Mode of delivery		
SVD	574	72.4
Instrumental	103	13.0
C/S	116	14.6

- Frequency and percentage of mother participated in maternal Satisfaction according to health facility related characteristics

Among all respondents, nearly half, 407(51.3%) of respondents were from referral hospital, 268 (33.8%) from the primary hospital, and 118 (14.9%) from the general hospital. Almost half of the mothers 400 (50.4%) preferred this hospital, 367 (46.3%) of mothers were referred from other health institutions, and 26 (3.3%) of mother were recommended by other users.

Almost all 788 (99.4%) of the mothers did not pay for any of the services they received, while few mothers paid for medicines, 2 (0.3%), laboratory 2(0.3%), and for supply1 (0.1%). Among these, majorities who paid were from referral hospitals (Table 4.7). Regarding transport, most mothers 320(40%) was used an ambulance to arrive at hospitals for delivery services and a few mothers 62(8%) arrived on foot (Tabel4:7)

Table 4. 7 Frequency and percentage of mother participated in maternal satisfaction According to Health Facility related characteristics (N=793)

variable	Number of respondents	Number of frequency	Percent of frequency
Type of hospital	793		
Primary		268	33.8
General		118	14.9
Referral		407	51.3
Request service payment	793		
yes		5	.6
no		788	99.4
Reason for payment	5		
for Drug		2	0.3
Lab invest		2	0.3
Supply		1	0.1
Mode of Transport	793		
Ambulance		320	40
Private Transport		102	13
Tax/Bajaj		309	39
On foot		62	8

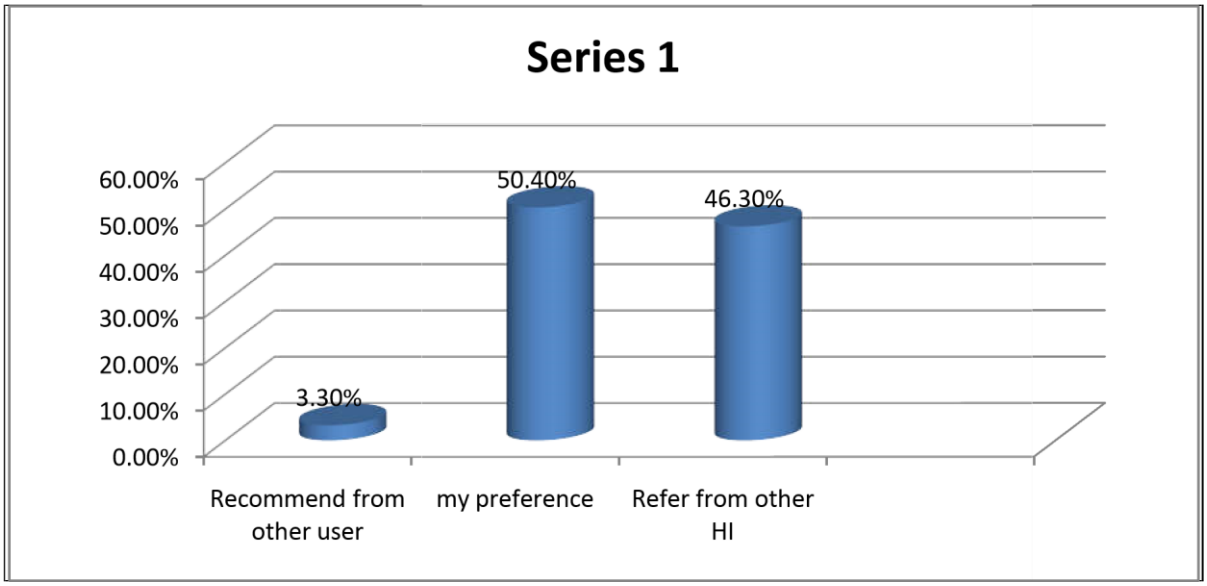

Figure 4. 1 Preference to give birth here In the Hospital North-west Ethiopia, 2020.

4.2.3 Descriptive analysis of the result

4.2.4.1 Input quality

Descriptive analysis of input quality

Out of eight hospitals, only three (37.5%) hospitals scored 75 % of input quality items and they had been considered as having a good input quality. Almost all facilities have electric power with a standby back-up automatic generator which starts within five minutes. However, half of the studied hospitals did not have an adequate water supply. Functional telephone and basic laboratory tests (urinalysis, blood group, Hct, WBC count, Rh test, malaria, and HIV tests) were available in all hospitals. However, out of eight hospitals, only three (37.5%) of them have U/S machines with a trained provider even if they were not proportional to client fellow almost all kinds of skilled healthcare professionals available in the hospitals as per the standards. All hospitals were supposed to provide CEmONC services. However, all skilled healthcare professionals working in the delivery room and included in this study did not receive refresher training on CEmONC service. Besides this, most of the hospitals lack towels to dry and wrap baby after delivery

TTC eye ointment is available in 50% of the hospitals and infection prevention readiness (gown, sterile glove, apron, goggles, mask, boot, and disinfectants) is fulfilled only in one

(12.5%) hospital. Only 2 (25%) of the hospitals gave 24 hours maternal and child health service and in 75% of the hospitals, facility services such as PNC and PMTCT were not given on a 24/7 basis. Only three (37.5%) hospitals have functional ambulances for an emergency referral. Most of the hospitals lack basic equipment to ensure women's safety and privacy in the delivery room.

Concerning bed, only two (25%) hospitals had a functional and adequate first stage bed whereas clean postnatal rooms, three (37.5%) of the hospitals have clean postnatal room. Toilet with shower service was available in four (50 %) hospitals and only (12.5%) hospital has an adequate screen in the delivery ward to maintain women's privacy during labour and delivery procedures.

Table 4. 8 Delivery service input quality items achieved by all Hospitals

Items	No of Items	Number of frequency	percent of frequency	Items achieved by all hospital
Input	73	20	27.4	**Human Resource**
				1. Midwife based on the standard
				2. Obstetrician based on the standard
				3. Anesthetics based on the standard
				Infrastructure
				4. Have functional Telephone
				5. Have functional electric with back up
				The provider getting Obstetrics Training
				6. At list one skilled provider Trained about newborn resuscitation (HBB)
				7. At list one SBA trained on PMTCT
				The Facility have the following Program
				8. IP Focal person
				Functional Laboratory service
				9. Basic blood and Urine analysis test available (Hgb or Hct, WBC count, ABO blood group and Rh test, malaria and HIV tests, Urine analysis like protein urea
				Basic Equipment and supply in the delivery room
				10. Two sterilized delivery sets (cord scissors, cord tie, two artery forceps)a
				11. Episiotomy set (catgut, one tissue forceps, one needle holder, one scissor/blade)

				Essential newborn care equipment and drug
				12. Newborn resuscitation materials (at least Bag and mask, mucus extractors, two mask)
				Consumable supply
				13. IV set and canula
				14. Folly catheter
				15. Blank partograph
				16. IV fluid (normal saline, Ringer lactate)
				Emergency drug for maternal care
				17. Uterotonic
				18. Antihypertensive (Hyderlizine)
				Anesthethic, analgesia
				19. Lidocaine
				20. Diclofenac

There are some input qualities that are not achieved by any of the hospitals such as for capacity building no one hospitals provider getting CEMONC training, no empty bed ready for next patient, no towel for drying a baby, and infection prevention materials. (See the table 4.9).

Table 4. 9 Delivery service input quality items not achieved by any of the Hospitals

Items	No of Items	Number of frequency	Percent of frequency	Items not achieved by all Hospital
Input	73	4	5.4	**The provider getting Obstetrics Training**
				1.All obstetrician in the delivery room trained to manage Comprehensive emergency obstetric and newborn care (CEmONC) with in 12 month
				Basic equipment and supplies in the delivery room
				2. Are empty beds clean and ready for next patient?
				Essential newborn care equipment and drug
				3.At least two towels to dry and warp baby after delivery available

				Infection Prevention material
				4. Infection prevention readiness (gown, sterile glove, apron, google, mask, boot and disinfectant prepared)

4.2.4.3 Process quality

- **Descriptive result of process quality**
  - **On admission**

Most of the health facilities have good performance on history taking. They include personal and medical history of women like name, age and her HIV status and any other medical problems 6(75%), 6(75%), 7(87.5%) and 6(75%) of the hospital were taken during history taking during admission of labour, respectively.

In addition, obstetric history, her parity and gravidity, any complications during labour and postpartum period, her last menstrual period for estimating gestational age and when the painful regular contractions began in 7(87.5%), 6(75%), 8(100%) and 7(87.5%) of the institution were addressed during history taking, respectively.

In our study some of the technical aspects of quality care during the physical examination were performed in all hospitals; blood pressure, fundal height and fetal heart rate were measured in 8(100%),7(87.5%), and 8(100%) of the hospital respectively. On the contrary, some of the key measurements were not implemented in most of the hospitals; maternal pulse, respiration 1(12.5%) and uterine contraction 4(50%) of the health facilities.

- **Labour**

In our study, partograph was not used fully and properly in all health facilities by taking 75% and 80% among all items of partograph measure components. During observation when we see the interpersonal aspect of evidence-based obstetric care, almost all hospitals did not show respect and politeness to both the woman and her family members and no one facility allowed the women to have her preference accompany at labour room, preferable delivery position and encourage the women to ask a question in the maternity ward. Women were greeted on arrival in a socially acceptable manner in 2(25%) of the health facilities, get immediate response for her need in 37% of the health facilities and procedure to be

undertaken were explained to the women-only one (12.5%) of the facilities. Moreover, 5(62.5%) of health facilities are giving emotional support to women during the intrapartum period and 4(50%) of health facilities encourage women to take light food or drink fluid at least once during labour.

- **Immediate newborn care**

According to the WHO quality standards, the experience of newborn care was assessed. In this study, the finding revealed that only 3 (37.5%) of the facilities dried the baby with a clean towel and changed wet towel for a clean dry one and 2(25%) of the health facilities put the baby on the mother's abdomen for the skin-to-skin contact to prevent heat loss and to encourage breastfeeding. In addition to these, there are some of the key newborn interventions which is not implemented in all health facilities such as identifying the baby were performed in 2(25%) of health facility, initiated the women to start breastfeeding within the first hour after birth 5(62.5%) of the health facilities. On the other hand, concerning vitamin K and TTC eye ointment administered 6(75%) and 7(87.5%) of the health facilities respectively.

Table 4. 10 Immediate Newborn care within one hour after birth (N=8)

Process quality Items	**Number of frequency**	**Percent of frequency**
1. Holds the baby by the trunk and places the baby on a clean dry towel on the mother's abdomen	5	62.5
2. Dries baby vigorously and changes wet towel for a clean dry one	3	37.5
3. Ties or clamps cord when pulsations stop, or by 2-3 minutes after birth (not immediately after birth)	2	25
4. Cuts/clamps the umbilical cord using sterile scissors under gauze to prevent blood splashing	4	50
5. If the baby is breathing normally, passes the baby to mother for skin-to-skin contact on breast	2	25
6. Note the time of birth and records on partograph	6	75
Process quality Items	**Number of frequency**	**Percent of frequency**

7. Observe breast feeding initiated within the first hour after birth	5	62.5
8. Provides tetracycline eye ointment 1% prophylaxis to newborn	7	87.5
9. Administer vitamin K to newborn	6	75
10. Weight the baby	8	100
11. Identifies the baby	2	25
12. Ensures that the baby is well covered,	4	50
13. Mother and newborn kept in same room after delivery (rooming-in)	8	100

- **Third stage (placenta delivery)**

Table 4.13 displays the finding regarding the third stage of labour 7(87.5%) of the hospital administered oxytocin within one minute of delivery of the baby after informing the women, and 100% of the hospital applied control cord traction while managing placenta delivery. Whereas among the six items of assessing the quality of the third stage of labour, two of them, palpating the mother's abdomen before giving oxytocin to rule out the presence of a second baby and placenta examination after delivery to ensure completeness of the placenta were implemented 62.5% and 50% of the hospitals respectively.

Table 4. 11Third stage (placenta delivery) (N=8)

Process quality Items	**Number of frequency**	**Percent of frequency**
1. Palpate the mother's abdomen to rule out the presence of a second baby	5	62.5
2. Tells the woman that she will receive an injection and administers 10 IU of oxytocin IM within 1 minute of delivery	7	87.5
3. Upon contraction, applies control cord traction , until the placenta is expelled	8	100

4. With both hands, assists in the expulsion of the placenta by turning it over in the hands without applying traction twisting the membranes	4	50
5. Massage the uterus with one hand one sterile cloth over the abdomen until it contracts firmly.	7	87.5
6. Checks to see whether the placenta is complete (maternal and fetal sides, plus membranes, lobs	4	50

- **Immediate postpartum care**

As regarding the immediate postpartum care after delivery by using 13 items, only one hospital (12.5%) achieved more than 75% but the rest of the hospital did not achieve it. In contrast, vaginal bleeding, baby's breathing condition and recording of the information were performed in all hospitals and to prevent postpartum bleeding uterine contraction checked in 87.5% of the hospital after delivery, whereas the rest of the postpartum care was not performed in the majority of the facilities. Making a woman comfortable (clean, hydrated and warmly covered) was conducted only in one (12.5%), maternal pulse rate checked in 2(25%), blood pressure measured in 5(62.5%) of the hospitals and 3(37.5%) of the hospital encourages the women about bladder care after delivery. Moreover, counselling during postpartum care about delay bathing and not to apply anything to the skin or cord was not implemented in all hospitals (Table 4.12).

Table 4. 12 Monitor the mother and newborn after birth (Immediate Postpartum care) (N=8)

Process quality items	**Number of frequency**	**Percent of frequency**
1. Make the women comfortable (clean, hydrated and warmly covered)	1	12.5%
2. Uterine contraction	7	87.5
3. Vaginal bleeding	8	100
4. Bladder distension	3	37.5
5. Blood pressure	5	62.5

6. Pulse	2	25
7. Consciousness	7	87.5
8. Baby's breathing condition and breastfeeding	8	100
9. Assists the woman with breastfeeding	5	62.5
10. Asks the woman if she has urinated and encourages her to do so whenever she wishes	3	37.5
11. Encourages the woman to eat and drink	4	50
12. Records the information on the women's clinical record and reports any abnormalities	8	100
13. Explains to mother importance of delayed bathing and not to apply anything to the skin or cord	0	0

- **Infection prevention**

Infection prevention practices such as hand washing, glove removed after immersed in 0.5% of chlorine solution before placed in leak proof container and cleaning the vulva before performing the vaginal examination were not performed in all hospitals. Proper gloving on both hands before vaginal examination was practised only in one hospital (12.5%), vaginal examination was performed every four hours or as the indication in 62.5% of the hospitals. Moreover, some of the instrumental processing was not implemented in all hospitals; decontamination reusable instruments in 0.5% chlorine solution and disposing of sharp instruments in puncture-resistant containers were practiced in 37.5% and 25% of the hospitals, respectively.

- **Respectful maternity care (a non-technical aspect of care)**

Regarding respectful maternity care during labour and delivery, the findings showed that all hospitals lack respectful and dignified maternity care. Within this study, there were 14 items to assess the non-technical aspect of delivering quality service. Among these items, particularly respond to the women/ her accompany question politely and in a respectful manner, encourage the women to ask a question, allowed her preferable accompany in the

delivery room, and ask the preferable position for baby delivery were not performed at all. See (Table 4.13).

Table 4. 13 Respectful maternity care (a non-technical aspect of care) (N=8)

No	Healthcare professionals	Number of frequency	Percent of frequency
	Labour and delivery		
1	Greets the woman and her companion (if present) in a cordial manner	2	25
2	Responds to her immediate needs (thirst, hunger, cold/hot, need to urinate, etc.	3	37.5
3	Explain each step	1	12.5
4	At least one encourages the woman to ask questions	0	0
5	Respond to the woman/ companion questions politely and in respectful manner	0	0
6	Provide emotional support to woman during labour and delivery	5	62.5
No	**Healthcare professionals**	**Number of frequency**	**Percent of frequency**
7	At least once encourage woman to walk around	4	50
8	At least once encourage the woman to change position according to the desire and comfort	2	25
9	At least once encourage the woman to take light food or drink fluid in labour	4	50
10	Allow the woman to have her preference companion at labour room	0	0
11	At least once encourages her to empty her bladder	4	50
12	Ask the preferable position for baby delivery	0	0
	Post-partum period		
13	Asks the woman if she has urinated and encourages her to do so whenever she wishes	3	37.5

14	Encourages the woman to eat and drink	4	50

- **Socio-demographic characteristics associated with process quality in hospitals**

The bivariate and multivariate logistic regression analyses were used to identify the determinant factors of quality delivery care services. Based on these the bivariate analysis sex, age, marital status of the healthcare professional, profession, work experience, and type of hospital were associated with quality delivery care services at p-value 0.2 level. But after adjusting for the entire variable in the multivariate logistic regression analysis, only work experience and type of hospital have a significant association with quality delivery services at p-value 0.5 levels. We found that healthcare professionals who have five and more than five years of experience are giving five times better quality delivery services than those who have less than two years of services [AOR= 5.42(95%CI: 1.56,18.90)] and referral hospital 99.8% less likely have been providing quality delivery service than primary and general hospital [(AOR=0.12,(95%CI: 0.02,0.61)]

Table 4. 14 Binary logistic regression analysis table of process quality delivery Services (N=192)

Variable		**Frequency**		**COR**	**AOR**
		Poor (%)	Good (%)		
sex	male	109(82.6%)	23(17.4%)	1*	1*
	female	41 (68.3%)	19(31.7%)	**2.19(1.08,4.44) ** **	1.16(0.52,2.61)
age	21-25	55(91.7%)	5(8.3%)	1*	1*
	26-30	75(76.5%)	23(23.5%)	**3.37(1.21,9.43) ** **	
	31-45	20(58.8%)	14(41.2%)	**7.70(2.46,24.13) ** **	

Marital status	Single	92(86.0%)	15(14.0%)	1*	
	married	58(68.2%)	27(31.8%)	**2.85(1.4o-5.82) ****	0.86(0.29,2.51)
Work experience	<2 year	68(90.7%)	7(9.3%)	1*	1*
	2-4 Year	60(75.9%)	19(24.1%)	**3.08(1.21,7.82**	1.81(.58,5.59)
	≥5 year	22(57.9%)	16(42.1%)	**7.07(2.57,19.39)**	**5.42(1.56, 18.90) ** **
Type of institution	Primary & General	65(65.0%)	35(35.0%)	**1***	
	Referral hospital	85(92.4%)	7(7.6%)	.**15(0.06.0.36) ***	0.**12(0.02,0.61)**
Type of institution	Primary & General	65(65.0%)	35(35.0%)	**1***	
	Referral hospital	85(92.4%)	7(7.6%)	.**15(0.06.0.36) ***	0.**12(0.02,0.61)**
Equipment	Poor quality	94(89.5%)	11(10.5%)	**1***	1*
	Good quality	56(64.4%)	31(35.6%)	**4.73(2.20,10.14) ***	0.78(0.21,2.95)
Medicine &lab	Not available	30(85.7%)	5(14.3%))	.54(0.19,1.49)	1.17(0.37,3.70)
	Available	120(76.4%)	37(23.6%)	1*	1*

***=Reference category, ** Significant**

4.2.4.3 Output

- **Output Result in terms of institution**

Two out of eight (25%) hospitals were providing good output quality service in this study. On the satisfaction level of the mothers with the hospital services, based on the standards used to measure satisfaction, two among eight hospitals (25%) achieved good satisfaction and all eight hospitals provided comprehensive emergency obstetric maternal and newborn care

services (CEMONC) in the previous three months period. Based on this, the overall output quality score was two out of eight hospitals (25%). Among 21 components used to measure maternal satisfaction, only one component (fair payment) was fulfilled by all hospitals. On the contrary, none of the hospital healthcare professionals practised introducing themselves to the mothers. In terms of accompanying, delivery position and pharmacological pain management during labour and after delivery, 6 (75%) of the hospitals did not deliver satisfactory services. Even if the WHO guideline recommends safe and quality service; maternal satisfaction in terms of accessing toilet, shower and handwashing material in the labour and delivery ward was only one (12.5%) hospital gave satisfactory service.

Table 4. 15 Delivery service output quality items not fulfilled by 75% of the health Facilities (N=8)

	Output quality measurement items	**Number of frequency**	**Percent**
1	There was functional triage system of the facility starting from the get (Labouring mothers go directly to labour ward before any administrative procedure)	1	12.5
2	Mother gets proper answer for her question (give appropriate answer for her equation after listening)	4	50
3	Get informed consent before any procedure (about the advantage and disadvantage)	5	62.5
4	Mother gets respect and dignity though- out labour and delivery services	3	37.5
5	Get appropriate counselling about breast feeding, immunization, family planning, danger sign and hygiene before discharged from hospital	5	62.5
6	Health care provides properly introduced their name, duties and responsibilities during labour and delivery	8	100
Ser No	**Output quality measurement items**	**Number of frequency**	**Percent**
7	Get the delivery room easily without difficulty starting from the get	2	25
8	In the delivery room I get toilet shower and hand wash sink	7	87.5
9	Deliver room was clean	3	37.5

10	Get Privacy during labour and delivery in the delivery room (during examination and child birth)	4	50
11	Respect Delivery Position(I got the permission of for my choice for labour and delivery)	6	75
12	I get permission to be visited by my preference family members in the delivery room (Accompany)	6	75
13	Get anti pain during labour and after delivery to relive the pain	6	75
14	Get the card immediately while arriving the hospital without any difficulty and delay	2	25
15	Immediately while arriving the hospital examined by healthcare professional (Full Hx is taken and All the necessary examination/procedure is performed)	1	12.5
16	Get bed immediately while arriving at delivery room	1	12.5
17	Lab tests available in the hospital (during pregnancy or labour)	2	25
18	All ordered/prescribed drugs and materials are available in the hospital for labour and delivery purpose (glove ,fluid)	1	12.5
19	Recommend for other to come to the hospital for delivery service	1	2.5
20	Overall satisfaction	1	12.5

4.2.4.4 Descriptive analysis of the overall quality childbirth care result

In this study, only one (12.5%) out of eight hospitals achieved ≥75% in the 3 components of quality measurement domain and was rated as good quality care service. While 3(37.5%) out of eight hospitals were not achieved in any of the three (0/3) quality components. Moreover, 4(50%) out of eight hospitals were achieved at list one (1/3) of the three quality components. This study included three types of hospitals, namely, primary, general, and referral hospitals. Among the hospitals, primary hospitals were scored better quality than other types of hospitals in all the three components of quality assessment domains. The result was also summarized based on each quality components accordingly. Three out of the eight hospitals fulfilled the input quality based on the national guideline (WHO 2016); among these, 2/3 of the hospitals were primary hospitals. Regarding the process and output domain of the quality components, two of height hospital were fulfilled both the process and output quality service and both were primary hospitals (Table: 4.16).

Table 4. 16 Frequency and percentage distribution of delivery Service Quality category of health facilities in three qualities domain (N=8)

Quality Component	Number of hospitals	Good quality score >or=75% Number of Facilities (%)	Good quality score >or=75% Percent of facilities	Poor quality Score <75% Number of facilities	Poor quality Score <75% Percent of facilities (%)
Input quality	8	3	37.5	5	62.5
Process quality	8	2	25	6	75
Output quality	8	2	25	6	75
Overall quality	8	1	12.5	7	87.5

*Overall quality was calculated based on the status of the 3 components of quality of care

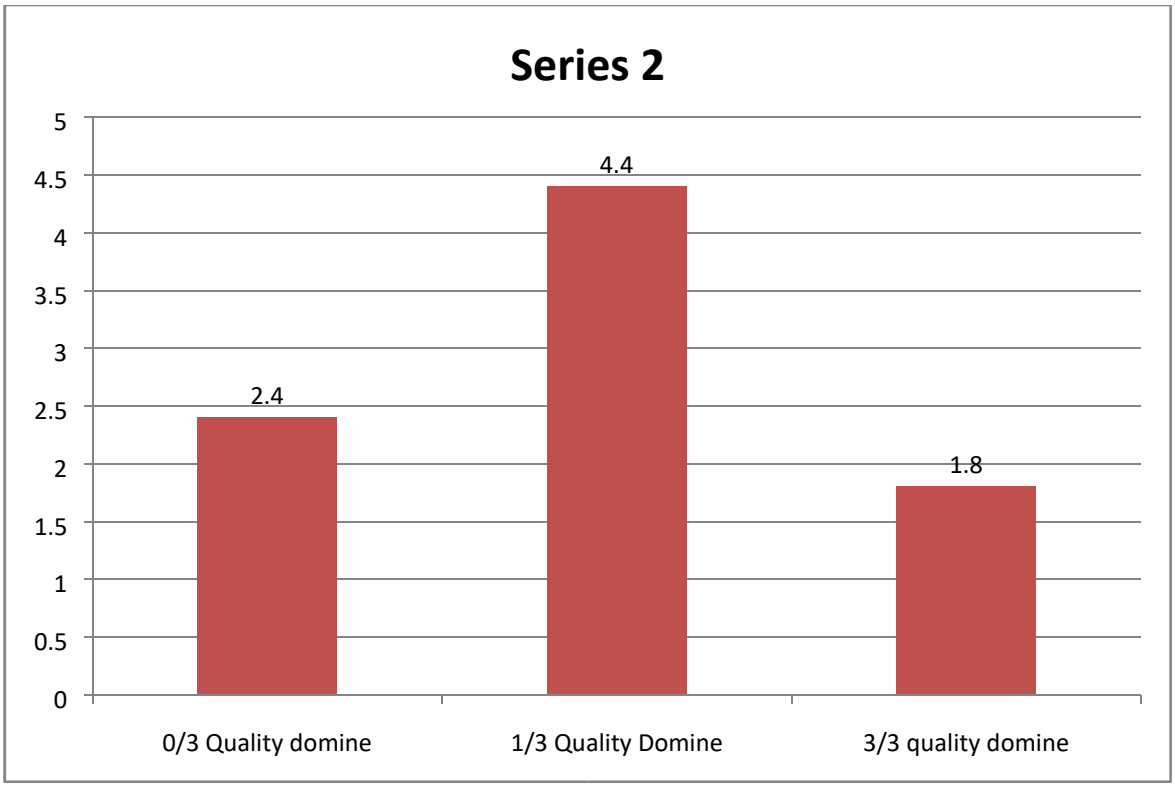

Figure 4. 2 The three quality domine, North-west Ethiopia 2020

The input items were the most fulfilled in the assessed hospitals. From 73 input items, 62(84.9%) and 20(27.3%) items scored ≥ 75% and all (100%) of the hospitals respectively and only 4 is not achieved by any of the hospitals. On the contrary, majority of the process items were not achieved by many of the hospitals. Overall, only one fifth (20.8%) of the quality items were scored by all hospitals whereas 17(8.8%) were not fulfilled by all the hospitals. Also, the distribution of the items in terms of its quality category was varied. The greatest failure was observed in process quality item (Table: 4.17).

Table 4. 17 Frequency distribution on the summary of number of items scored by the Hospitals

Quality Components with items	Items scored by all hospital	Items scored by 75 - 99% of the hospital	Items not scored by any of the hospitals
Input Indicator (73 Items)	20(27.3%)	42(57.5%)	4(5.4%)
Process indicator (98 Items)	18(18.4%)	21(21.4%)	12(12.2%)
Output Indicator (21 Items)	1(4.7%)	9(42.8%)	1(4.7%)

Overall quality indicator 192 (Items)	40(20.8%)	15(7.8%)	17(8.8%)

4.2.5 Maternal satisfaction on delivery services

- **Maternal satisfaction on institution structure aspect**

Health institution related elements of maternal satisfaction had a good score of satisfaction except general cleanliness of the hospitals (68.3%),in other components such as the hospital triage system (90.3%), getting abed on time (90.9), getting payment card easily (85.2%) and also payment of the service(99.5%) most of the mother were satisfied

Table 4. 18 Maternal satisfaction on institution structure aspect (N=793)

	Variable	**Number of frequency**	**Percent**
1	**Triage system**		
	Dissatisfied	77	9.7
	Satisfied	716	90.3
2	**Get delivery room easily**		
	Dissatisfied	90	11.3
	Satisfied	703	88.7
3	**Get patient card easily**		
	Dissatisfied	117	14.8
	Satisfied	676	85.2

4	**Get bed on time**		
	Dissatisfied	72	9.1
	Satisfied	721	90.9
5	**Getting all laboratory investigation in the hospital**		
	Dissatisfied	157	19.8
	Satisfied	636	80.2
6	**Access all drugs in the hospital**		
	Dissatisfied	130	16.4
	Satisfied	663	83.6
	Variable	**Number of frequency**	**Percent**
7	**Fair payment**		
	dissatisfied	4	.5
	satisfied	789	99.5
8	**General cleanliness of the hospital**		
	Dissatisfied	251	31.7
	Satisfied	542	68.3

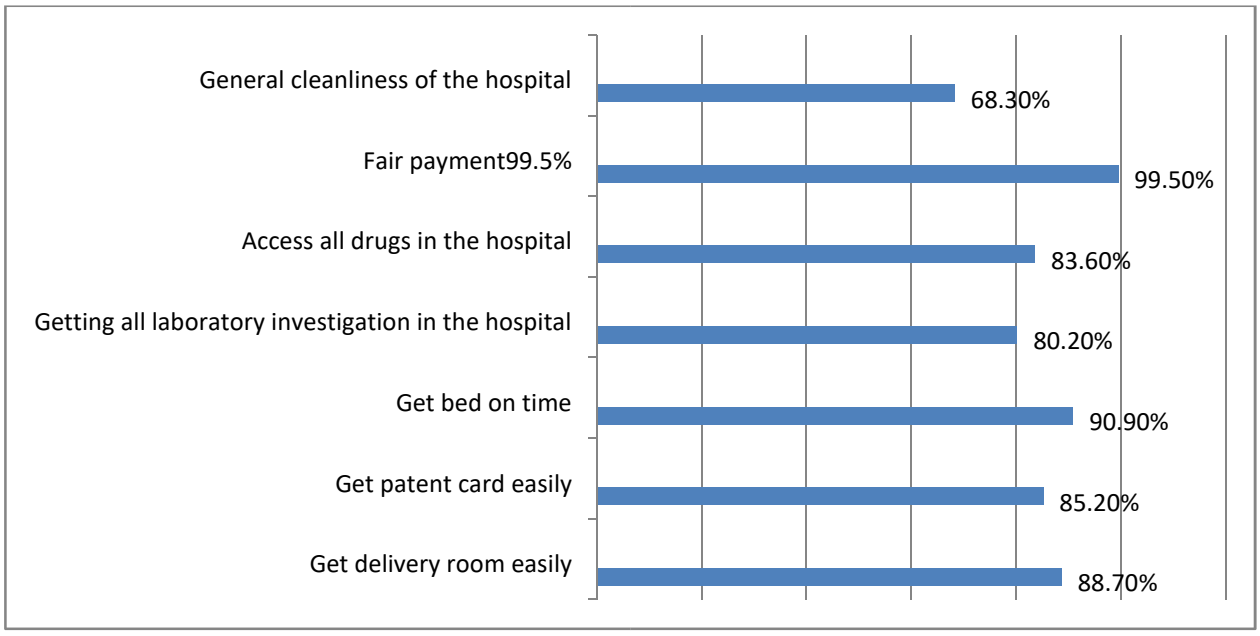

Figure 4. 3 The proportion of maternal satisfaction on institution structure aspect of delivery care service in public hospital of North-West Ethiopia, (N=793).

- **Maternal satisfaction on interpersonal aspect of care**

Most mothers (89.9%) were satisfied with a prompt examination by healthcare professionals while arriving at maternity word. Likewise, in respecting the dignity (81.5%) of the mother were satisfied whereas in healthcare professionals' level of introducing her/himself for the mothers before starting the examination, where only (12.1%) of the mother were satisfied.

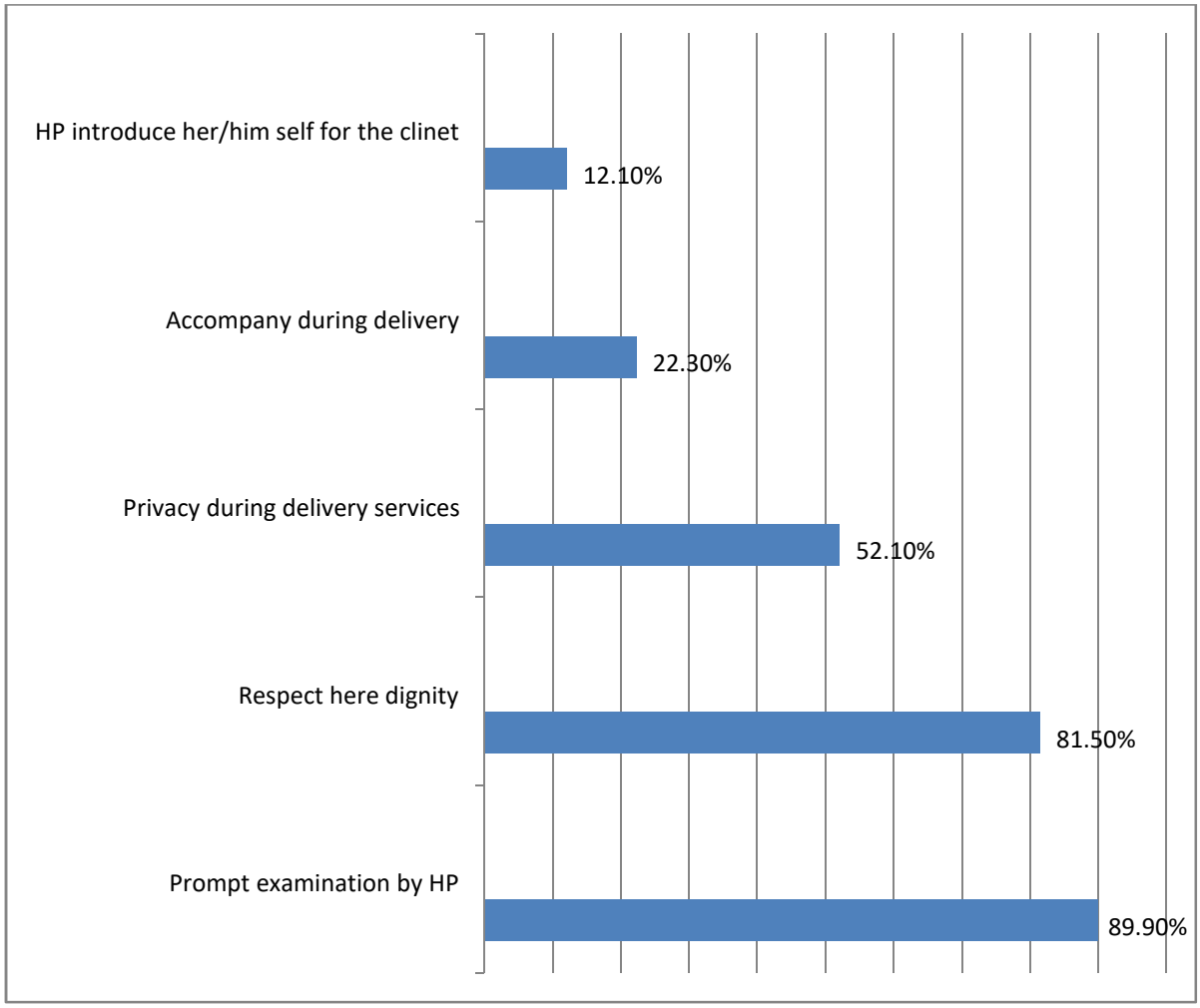

Figure 4. 4 The proportion of maternal satisfaction on interpersonal aspect of care service in public hospital of, North-West Ethiopia, (N=793).

- **Maternal satisfaction on informative aspect of care**

To assess maternal satisfaction on informative aspect of care, three elements as described in table 4.19 have been used. Regarding getting adequate information from healthcare professionals during labour, delivery, and immediately after delivery, the findings showed that 66.6% of the mothers were satisfied.

Table 4. 19 Maternal satisfaction on the informative aspect of care (N=793)

Variables	Number of frequency	Percent of frequency
Get all information from Health provider		
Dissatisfied	265	33.4
Satisfied	528	66.6
Getting information about Breast feeding		
Dissatisfied	504	63.6
Satisfied	289	36.4
Getting appropriate answer from healthcare professional on her question		
Dissatisfied	219	27.6
Satisfied	574	72.4

- **Maternal satisfaction on the technical aspect of care**

Regarding the technical aspect of care, the study revealed that almost all elements of technical care do not address maternal satisfaction as shown in Table 4.22. Delivery position is below half (48.9%) of mothers who were satisfied and only almost one third of mothers were satisfied by health providers practicing handwashing before the procedure for the purpose of infection prevention during delivery care services.

Table 4. 20 Maternal satisfaction on technical aspect of care (N=793)

Variables	Number of respondents	Percent of frequency
Handwash before performing a procedure		
Dissatisfied	509	64.2
Satisfied	284	35.8
Delivery position		
Dissatisfied	405	51.1
Satisfied	388	48.9

Getting pain during labour		
Dissatisfied	441	55.6
Satisfied	352	44.4

- **The Proportion of maternal satisfaction in four dimensions of delivery care service.**

When you see the proportion of maternal satisfaction among the four dimensions of services, most of the mothers satisfied with hospital structural (environmental) aspect of care which is (85.8%), and the list satisfaction level was revealed that on technical aspect which is (43.03%) as findings showed during delivery in Figure.4.5.

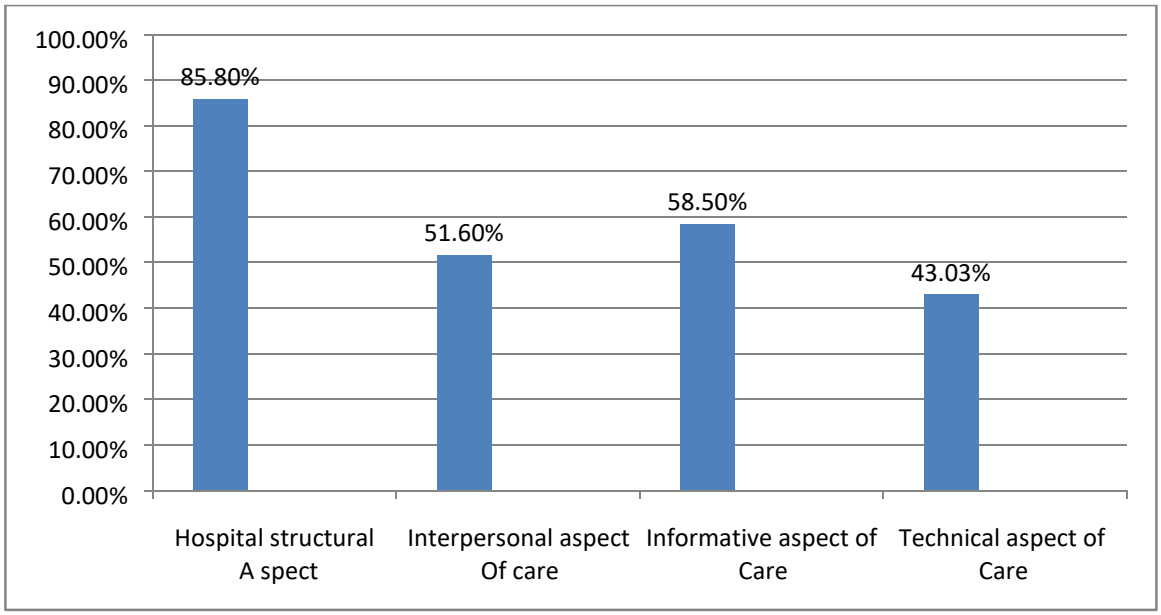

Figure 4. 5 Proportion of maternal satisfaction on different aspects of the delivery care service in public health hospitals**.** North-west Ethiopia 2020

- **Overall maternal satisfaction on Facility delivery care services**

The women's level of agreement on the various aspects of delivery care service satisfaction was articulated from very satisfied to very dissatisfy. During the analysis, the responses of very satisfied and satisfied were grouped as satisfied. On the other hand, the responses of very dissatisfied, dissatisfied and neutral have been grouped as unsatisfied. Since neutral response was classified as dissatisfied considering that they may represent a fearful way of

responding dissatisfaction since the data was collected within the hospitals. Therefore, the mothers may have been unwilling to respond their dissatisfaction feeling of the services. Finally, the overall satisfaction level of the mothers who scored ≥75% of items were categorized under " satisfied" and those who score less than 75% of the items were categorized as "unsatisfied".

The overall proportion of women's' who were satisfied with delivery care services in this study are 304 (38.3%) with 95%CI=34.8%-41.7%). Regarding type of hospital mothers who get service in the primary hospitals relatively better satisfied by received service than other type of hospitals, as figure 4.6 shows that 45.5% of mothers satisfied in primary hospital where as in general hospital, only ¼ participants satisfied by the service they received .

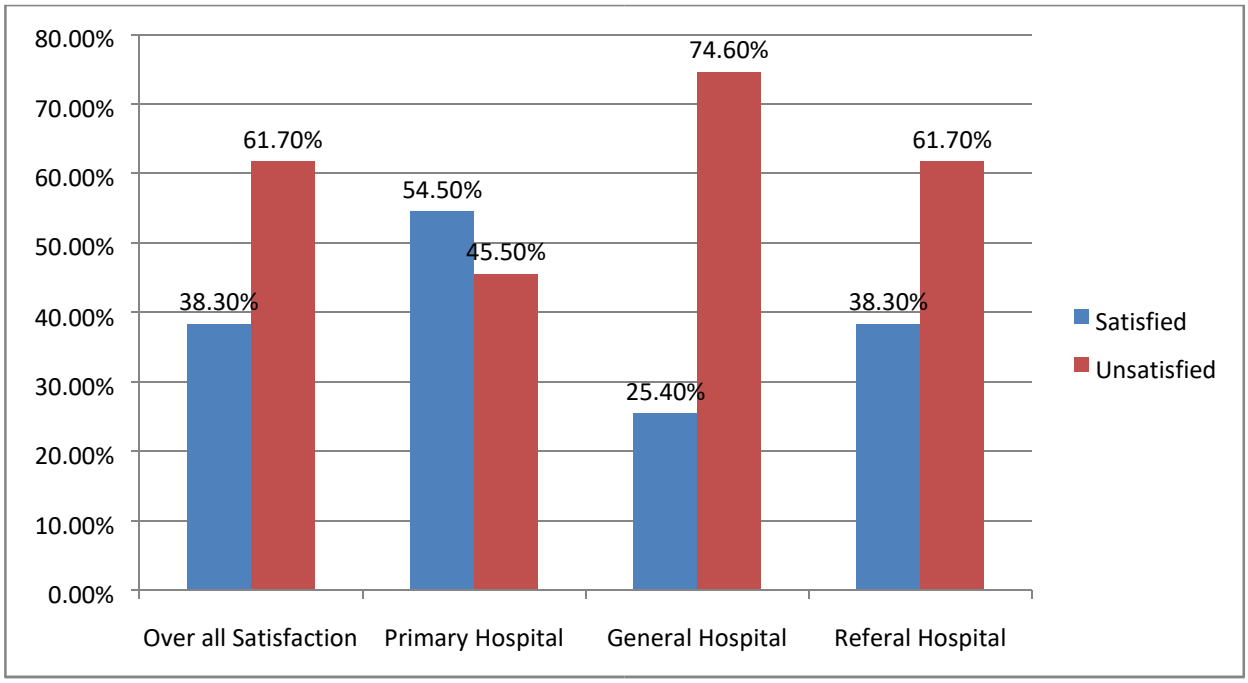

Figure 4. 6 Satisfaction level among type of hospitals. North-west Ethiopia 2020

4.2.5.1 Factors associated with maternal satisfaction

In the bivariate analysis, socio-demographic, obstetric, and institution related factors were significantly associated with over all maternal satisfaction on delivery services (Table 4.22). To increase the statistical strength measuring which factors determine the maternal satisfaction, hierarchical regression model was used. By using two models (maternal related factors and institution related factors), it is possible to confirm that maternal education,

income, transport to arrive the hospital, and having ANC visit have a significant association with maternal satisfaction and in the institution related factors process quality means provider competence have a significant association for maternal satisfaction. The odd of satisfaction for women who were rich, and wealthy were 1.66 times more likely to be satisfied than those who were poor category (95% CI; 1.12-2.42, p<0.01). On the other hand, the odds of satisfaction for mothers who attended secondary levels of education were 45% less likely than those who were not able to read and write (95% CI: 0.25-0.82, p<0.009). Among the obstetric characteristic, the odds of satisfaction among mothers who had less than 4 ANC visits were 38% less likely than those who were 4 ANC visit (95% CI: 0.42, 0.92, p<0.01) and the odds of satisfaction among mother who had greater than 4 ANC visit were 59% less likely than those who were 4 ANC visit (95% CI: 0.21, 0.81, p<0.01). Similarly, the odds of satisfaction among mothers who used taxi/Bajaj transport for reaching the hospital was 44% less likely than those who used ambulance (95%CI: 0.34-0.92, p<0.02). The odds of process quality means provider competence were eight times (95% CI: 4.18, 14.93, p<0.0001) higher among those compared to counterparts. The ability of model I independent variable to explaining the dependent variable was 16% (Nagelkerke's R^2 =0.162) whereas Model II 27% (Nagelkerke's R^2= 0.270). This indicated that ability to explain the dependent variable in model II increased by 11%.

Table 4. 21 Hierarchical logistic regression model of maternal (Socio-demographic, obstetric) and Institutional related factors associated with Mothers 'Satisfaction.

Variables	**Satisfaction frequency**		**COR (CI 95%)**	**Adjusted OR (95%CI)**	
	Unsatisfied (%)	Satisfied (%)		**M1**	**M2**
Income					
Poor	247 66.4%)	125(33.6%)	1*	1*	1*
Middle	94(61.4%)	59(38.9%)	1.24(CI:0.85,1.83)	1.11(0.72,1.74)	1.02(0.63,1.65)
Rich	148(55.2%)	120(44.8%)	**1.60(CI:1.16,2.21) ** **	**1.67(1.17,2.40) ** **	**1.65(1.12,2.42) * * * **
Marital Status					
Married	469 (61.8%)	290(38.2%)	1*	1*	1*
Unmarried	6 (35.3%)	11(64.7%)	**2.96(1.08,8.10) ***	**5.08(1.59,16.23)**	3.13(0.89,10.9)

Other(widowed)	14(82.4%)	3(17.6%)	.347(.09,1.21)	0.34(0.08,1.31)	.52(0.13,2.03)
Educational status					
Unable to read &write	121(54.3%)	102(45.7%)	1*	1*	1*
Read and write	31(75.6%)	10 (24.4%)	**0.38(CI:0.178-0.82) ***	45(0.19.1.03) ^	.51(0.21,1.21) ^
Grade1-8	101(64.3%)	56(35.7%)	0.66(CI:0.43-1.00)	.73(0.43,1.21)	.72(0.42,1.24)
Graed 9-12	121(68.0%)	57(32.0%)	**0.56(CI:0.37-0.84)****	**.53(0.30,0.92)***	**.45(0.25,0.82)****
College	115(59.3%)	79(40.7%)	0.81(CI:0.55-1.20)	.78(0.41,1.51)	.65(0.32,1.30)
Occupation					
Farmer	149(58.0%)	108 (42.0%)	1*	1*	1*
Housewife	147(67.7%)	70 (32.3%)	**.65(0.45,0.95) ***	1.20(0.70,2.03)	1.29(0.74,2.24)
Employer	95 (62.1%)	58 (37.9%)	.84(0.55,1.26)	1.11(0.56,2.23)	1.21(0.58,2.52)
Private	77(56.6%)	59(43.4%)	1.05(0.69,1.60)	1.60(0.91,2.81)	1.42(0.78,2.59)
Student	21(70.0%)	9(30.0%)	.59(0.26,1.34)	.84(0.30,2.35)	1.32(0.46,3.83)
Current pregnancy p**lanned**					
Yes	425 (60.3%)	280 (39.7%)	1*	1*	1*
No	64 (72.7%)	24(27.3%)	**0.56(0.34,0.93) ***	0.60(.34,1.07) ^	0.67(0.37,1.21) ^
Number of ANC Follow up					
=4 visit	238 (56.3%)	185(43.7%)	**1***	1*	1*
<4 Visit	158 (62.9%)	93 (37.1%)	.75(0.55,1.04)	.76(0.53,1.09) ^	**.62(0.42,0.92) ****
>4 Visit	76(84.4%)	14 (15.6%)	**0.23(0.13,0.43) *****	**0.33(0.17,0.63) *****	**.41(0.21,0.81) ****
No ANC Visit at all	17(58.6%)	12 (41.4%)	.90(0.42,1.94)	.70(0.29,1.67)	.59(0.22,1.54)
Mode of delivery					
SVD	375 (65.3%)	199 (34.7%)	1*	1*	1*
Instrumental	46(44.7%)	57 (55.3%)	**2.34(CI:1.53,3.57) *****	**2.01(1.24,3.18) ****	1.10(0.64,1.90)

CS	68 (58.6%)	48 (41.4%)	1.33(CI:0.88-1.99)	.92(0.59,1.44)	.98(0.61,1.57)
Transport					
Ambulance	175 (54.7%)	145(45.3%)	1*	1*	1*
Private transport	51 (50%)	51(50%)	1.21(CI:0.77-1.88)	1.35(0.79,2.28)	1.02(0.58,1.81)
Tax/bajaje	223 (72.2%)	86 (27.8%)	**.47(CI:0.33-0.65) *** **	.64(0.40,1.01) ^	0.**56(0.34,0.92) ***
On foot	40 (64.5%)	22 (35.5%)	.66(CI:0.38-1.17)	.90(0.45,1.81)	.62(0.29,1.33)
No. of < 5childern					
No under5 child	203(60.2%)	134(39.8%)	**1***	1*	1*
One under5 child	148(56.7%)	113(43.3%)	1.15(0.83,1.60)	1.11(0.76,1.63)	.89(0.60,1.34)
>=2 under5 child	138(70.8%)	57(29.2%)	**.62(0.42,0.91) ****	.60(0.43,1.03) ^	.71(0.45,1.13) ^
Reason to come to the hospital					
My preference	268 (67.0%)	132 (33.0%)	1*	1*	1*
Recommend from another user	20 (76.9%)	6 (23.1%)	0.61(CI:0.24-1.55)	.45(0.16,1.23) ^	.64(0.22,1.80)
Refer from other	201(54.8%)	166 (45.2%)	**1.67(CI:1.252.24) ****	1.26(0.84,1.89)	1.46(0.92,2.30)
HI			*		^
Type of hospital					
Primary Hospital	122(45.5%)	146(54.5%)	**1***		1*
General Hospital	88(74.6%)	30(25.4%)	**.28(0.17,0.46) *****		.89(0.43,1.85)
Referral Hospital	279(68.6%)	128(31.4%)	**.38(0.27,0.52) *****		1.08(0.60,1.93)
Input					
Poor quality	184(35%)	341 (65%)	1*		1*
Good quality	148(55.2%)	120(44.8%)	**1.50(1.11,2.02) ****		.93(0.50,1.70)
Process quality					
Poor quality	196 (30.2%)	454 (69.8%)	1*		.1*
Good quality	108 (75.5%)	35 (24.5%)	**7.14(4.71,10.83) *****		**7.90(4.18,14.93) *****
Chang in R^2				**M1=R^2 0.162**	**M2=R^2 0.270**
Chang in R^2				M1=$R^2$0.162-M2 $R^2$0.270=0.108(11%)	

Note=p<0.001, **p<0.01,*p<0.05, ^p<0.2***

4.3 Summary

This chapter was concerned with the analysis, interpretation and presentation of the finding of overall quality of childbirth after assessing each domain of quality childbirth which are input, process, and output /maternal satisfaction by using a cross-sectional survey data collection method, from different respondents according to the objective such as for input, process and output/ maternal satisfaction, 24 key informant interviews from eight hospitals (5 primaries, one general and 2 referral hospitals), 192 skilled healthcare professionals and 793 mothers who visited the hospital for childbirth delivery service were utilised to address the objective respectively. The main objective of this chapter was to assess the proportion of hospitals that give quality childbirth service, maternal satisfaction and to test the hypothesis dealing with the relationship of various independent variables with process quality and maternal satisfaction by using bivariate, multivariate logistic regression analysis, and hierarchical model analysis. When we used multivariate and hierarchical model analysis, those factors that showed association at the binary logistic regression analysis at a cut of value were (p-value ≤ 0.2) included.

The overall level of quality childbirth and each domain of quality service towards childbirth were rated below standard. There are socio-demographic, obstetric factors of the mother provider and health institution factors have a significant association with quality childbirth care.

CHAPTER 5

ANALYSIS, PRESENTATION AND DESCRIPTION OF QUALITATIVE RESEARCH FINDINGS

5.1 Introduction

This chapter presents findings for the qualitative part of the study. It presents the analysis, presentation, and description of findings on the service healthcare professionals delivering mothers, and attendants' perspective on quality of childbirth care services to address the subjective part of overall delivery quality care service. The results of the interviews are

presented based on five themes. A group of repeating ideas such as perceived quality, good experience quality delivery services of the mother, barrier for provision of quality delivery services, barrier for use of quality delivery service, and cause of client discomfort /disappointment were organised. The general perception of quality delivery service is also presented as general assessment of quality after each component /category of quality items is assessed to propose client catered care. After each theme and category have been presented based on the subcategory. The main purpose of the detailed interview is to dig out information to enrich the quantitative result to develop a client centre guideline.

5.2 Biographical profile of the participants

The total number of participants in the study was 57 in number, including healthcare professionals working in the delivery ward (n=16), mothers who get delivery service in the hospital (n=19), and family members who accompany the labouring mothers are in the selected eight public hospitals (n=22). Table (5.1) presents the demographic characteristic of the healthcare professionals. Majority 13 (81.3%) of the healthcare professionals who participated in the in-depth interview were male and 11(68.8%) BSC midwives, while three (18.8%) MSC emergency obstetric surgeon and two (12.5%) MSC clinical midwives. More than half of the healthcare professionals (62.5%) have 3-5 years of working experience and one (6.2%) has greater than ten years. Nine (47.4%) mothers with an age range of 25-29 years and a mean age of 26.6 years. Table (5.2) presents the demographic characteristic of the mothers. Four (21.15%) mothers did not go to school while 5(26.3%) have primary and secondary education, and three mothers had university /college level of education. Most mothers 16(84.2%) occupation was a housewife and more than half of 10(52.6%) of them were multipara and 6(31.6%) were primipara. The last table (5.3) shows the demographic characteristic of attendants and who were part of the interview. More than half were accompanied by their spouses and 6(27.3%) were mothers. In addition, 7(31.8%) of the attendants were not educated and four (18.2%) had primary school level education while 2 (9.1%) secondary education, three (13.6%) high school level education, and 6(27.3%) had college-level education. Seven (31.8%) of the attendant's occupations are farmers and housewives and also five (22.7%) of the attendants are government employ among this 4(80%) attendants' relation is a husband and one (20%) is sisters

Table 5. 1 Characteristics of healthcare professionals who participated in the in-depth interview (N=16)

variables	Number of Frequency	Percent
Sex		
Male	13	81.3
Female	3	18.7
Age		
20-24	1	6.2
25-29	10	62.5
30-34	4	25
≥35	1	6.2
Profession		
MSC Emergency obstetric surgeon	3	18.8
MSC clinical midwife	2	12.5
BSC Midwife	11	68.8
Year of experience		
1-2 years	3	18.8
3-5 years	10	62.5
6-10years	2	12.5
>10years	1	6.2
Position of work		
MCH Coordinator	7	43.8
Staff	9	56.2

Most providers who participated in the in-depth interview were male 81.3% and BSC midwife 68.8%.

Table 5. 2 Characteristics of Mothers who participated in the in-depth interview (N=19)

variables	Number of Frequency	Percent
Age		
<20	1	5.3
20-24	7	36.8
25-29	9	47.4
30-35	2	10.5
Education level		
No education	4	21.1
Primary education (1-6)	5	26.3
Secondary education (7-8)	5	26.3
High school (9-12)	2	10.5
College/University	3	15.8
Occupation		
Hose wife	16	84.2
Nurse	1	5.3
Teacher	2	10.5
Para		
I	6	31.6
II-IV	10	52.6
≥V	3	15.8

The age of mothers who participated in the in-depth interview was in the age range of 2529 and more than half 52.6% of the mothers were multi para. Most mothers were housewives 84.2%.

Table 5. 3 Characteristics of family members who accompany the mothers and Participated in the in-depth interview (N=22)

Variables	Frequency	Percent
Sex		
male	12	54.5
female	10	45.5
age		
20-25	**3**	13.6
26-30	**8**	36.4
31-35	**4**	18.2
36-40	**3**	13.6
≥41	**4**	18.2
Education level		
No education	7	31.8
Primary education (1-6)	4	18.2
Secondary education (7-8)	2	9.1
High school (9-12)	3	13.6
College	6	27.3
Occupation		
Farmer	7	31.8
Housewife	7	31.8
Government employ	5	22.7
merchant	3	13.6
Relation		
Mother	6	27.3
Husband	10	45.5
brother	2	9.0
sister	4	18.2

Up to 54.5% of attendants of the mother who participate in the study are male and their relationship was the husband.

5.3 Main findings of the in-depth interview

The results of the in-depth interview are presented based on the five main themes. This includes delivery service quality as perceived by participants, good experience bearings for the participants, barrier for provision of quality delivery service for the healthcare professional, barrier for use of quality delivery service for the mother, and cause of mother discomfort. Each theme has its own category and subcategories. For all participants about overall general quality, the question was presented as background information before going to each category and sub-category of the themes.

Table 5. 4 Schematic presentation of themes and categories of in-depth interview (N=57)

Thames	**category**	**Sub-category**
Perceived quality	• Interpersonal care	• Compassionate care • Emotional support • Information and counselling care
	• Technical aspect of care	• Follow up service
Good experience quality delivery services of the mother.	• Interpersonal care	• Compassionate care • Information and counselling
	• Safe and accessible care	• Cost of the service • Hospital System • Triage system

Barrier for provision of quality delivery services	• Staff related	• Lack of coordination of the staff and weak administration of human resource Lack of experience • Shortage of skilled provider
	• Infrastructure related factor	• Lack of diagnostic service • Shortage of bed and supply • Shortage of classroom
	• Transport	• Absence of ambulance
Barrier for use of quality delivery service	• In accessibility of drug and supply	• Delay to treatment • Security problem • Supply (safety) Financial burden
	• Lack of individualized care	• Delay appropriate treatment • Lack of continuous care • Difficult to identify the healthcare professional
	• Discrimination	• Discriminate owing to place of resident • Discrimination due to healthcare professionals
	• Service given by student	• Lack of competency • Unable to take responsibility
Cause of healthcare professional and client Discomfort /disappoint	• privacy	• privacy not assured
	• accompany	• Not allowed accompany
	• Service given by students	• Service given by incompetent provider
	• Ethical misconduct	• Physical and verbal abuse
	• No response to for mothers' calls	• Reluctant to give care
	• Lack of job satisfaction	• Poor payment • Lack of recognition

5.3.1 Theme1. Perceived quality

Under this theme, there are two categories and four sub-categories. These categories and sub-categories are interpersonal care and technical aspect of care. The subcategories are compassionate care, and emotional support, information, and counselling care and follow-up service (see table 5.4).

5.3.1.1 Category1. Interpersonal care

Interpersonal care is a humanistic approach of care given during mothers and provider interaction. Interpersonal care is one of the most important parts of care for quality childbirth care since interpersonal care affects their preference of place delivery. In this study, interpersonal care includes three sub-category cares which are compassionate, emotional support, information, and counselling care.

A 35 years old multi para mother explains her interpersonal experience as follow

"… I was on the couch for 14 hours... I couldn't nurse my baby and the baby was crying. ...They did not understand my stress.... I called my mother to assist me.... But no one volunteered to allow it. Instead, they said she is not the one delivering.... (አትቅበጭ).... At this time, I cried a lot and I said it was better to give birth in a health centre since they give emotional support by expressing their support as friendly while the first baby was delivering there. ...no need to come again in this hospital even if, they are competent providers …

- **Compassionate care (n=8)**

Compassionate care is care given to the mother starting from welcoming face, give warmly greeting and being treated politely with respect and showing empathy to both the mother and family members who accompany the mothers, by introducing themselves. Compassionate care is very important to care to keep quality delivery care service to minimise maternal mortality and morbidity by increasing institutional delivery services seeking behaviour. But most of the in-depth interview participants perceived that there is no compassionate care service.

A 26-year-old, prim para mother, referred from other hospital mentioned the following:

> ''.. Yesterday ...I was very sick especially since my hand was swollen, I requested the doctor... to discontinue the needle, but there was no positive response even the female healthcare professionals not, volunteer...''

A 32-year-old female midwife professional who has nine yearsyears' experience believed that no compassionate service was provided as explained below.

> "…Even though not for all healthcare professionals… there are some healthcare professionals including guards who did not give respect ion for mothers especially for family members...and not politely service, let me tell you the one saying from one female medical doctors as she said: "why we say go out, go out repeatedly when we see family members I don't know the reason but we did not learn in such manner…"

Even though, the healthcare professionals understand the advantage of compassionate care for mothers and caretakers during delivery service they did not practice compassionate care especially the supporting staff like guards.

- **Emotional support (n=11)**

Emotional support is key care for labouring mothers since even if labour pain is a natural physiological process, it is a very painful and stressful situation for the mother. Therefore, they need emotional support and encouragement from the healthcare professional by saying do not worry; I will help you as much as my effort to alleviate the pain and get the energy to cope with their pain and stresses since mothers have trust in the healthcare professional next to God. But most of our mothers who participated in the in-depth interview complained about lack of emotional support from the healthcare professionals.

> "…While my labour pain became strong, I tried to grasp her… automatically she said don't touch me. During this time, I was much stressed, and I requested to pee my but she said don't leave the bed …"

A 23 year old para one mother explained the following about emotional support.

"… No emotional support from healthcare professionals... Let me tell us the reality while I was in labour with a lot of pain, I request my provider for a certain minute to take rest and birthing but she did not understand my feelings**..."**

- **Information and counselling (n=9)**

Mothers need proper information and counselling service from the healthcare professional about the condition them and their children status and they expect an opportunity to learn about them/their children health since they perceived that the correct information source is a healthcare professional and also getting information from the healthcare professional believed as getting emotional reassuring or energy since they expect getting information from the healthcare professional gives good hope for the outcome of labour and delivery. However, most of our mothers and healthcare professionals participated in an in-depth interview; they perceived that there is no practicing proper and enough information and counselling service for the mother. In addition to this, healthcare professionals admitted it not providing adequate information and counselling service owing to the factor of fatigue because of high workload and lack of adequate time and some healthcare professionals owing to ignorance.

A 21- year- old gravida one and para one mother explained the following about information and counselling service.

." .... You tell us to breastfeed without showing us how..."

".. They told me to bring my child when will be sick ...but I don't know the sign/symptoms of child illness ...since this is first child ..."

".. information not in detail and properly to create enough knowledge for me... but it was a good opportunity for me to learn more about my health but no one has told me briefly...."

This finding shows that mothers coming to health institutions are not only getting delivery service but also to get adequate information to acquire knowledge and skill about them and their child health condition.

A 32-year-old male midwifery provider explained his and their maternity staff's experience by blaming his and his friend's service for information and counselling as below.

> "…it is possible to say there is no clear information and consent given to the mother… even during operation, we request mothers to sign... without reading what we wrote."

5.3.1.2 Category 2 Technical aspect of care

The technical aspect of care is care given for the mother based on the standards by strict follow-up. Mother's perception towards quality care affects by follow-up since their expectation and understanding about quality service is getting frequent follow-up from the healthcare professionals.

- **Follow up (n=8)**

Mothers expect and perceived that there is frequent follow-up for labouring mothers from a healthcare worker in the institution and they perceived that the purpose of coming to the hospital for delivery care is for strict follow-up but some delivering women believe there is no adequate follow-up.

A 26-years-old primipara mother referred from other hospital explained her experience of follow up as fellow:

> "...they did not follow me frequently... I was referred from another hospital with excessive bleeding, and I was in between life and death which need serious follow-up and action...but it was out of my expectation..."

A 35-year-old multi para mother, explains that her experience of follow-up of labour as follows:

> "…From my experience, I know that my lobar is precipitate, but no one was following me... within one hour I feel my baby is coming... and I gave birth on the bed and bleed much…"

Lack of proper follow-up creates delayed treatment next the consequence of delayed treatment brings life treating complication.

5.3.2 Theme 2: Good experience of quality delivery services of the mother

Under this theme, there are two categories and five subcategories. The categories are interpersonal care and safe and accessible care. Under interpersonal care, there are two subcategories (compassionate care and information and counselling care) and under safe and accessible care, there are three subcategories (cost of the service, hospital system, and triage system). Good interpersonal care, accessibility of triage service and availability of a free and safe system of the hospital during delivery service create a good experience of childbirth delivery care for the client.

5.3.2.1 Category 1: Interpersonal care

Compassionate care and getting appropriate information and counselling care create a good experience for the mother. Even though good interpersonal care is part of the activity/ duty of healthcare professionals, mothers understand it as a personal good characteristic since most of the time they believe that healthcare professionals' behaviour is irritable and offensive. Therefore, mothers getting good interpersonal care from the healthcare professional consider this as an incentive and they need to say thank you.

- **Compassionate care (n=6)**

Provision of compassionate care involves respecting mothers and empathising with them through their pain and understanding their responsibility while giving service. Compassionate care is key care to save a mother's life and maintain quality delivery service by creating satisfaction for mothers and caretakers. Our in-depth interview participants' express their good experience of compassionate care as the following.

"… I would like to thank midwife's since they are concerned to save the life of the mothers. Even when we say thanks…you say they respond to us by saying no it is our duty.…"

"..…some of the healthcare professionals... they feel my pain....."

Mothers take as a good experience of delivery care when they find healthcare professionals used their efforts to save mothers life by understanding their responsibility and who

understand the mother's pain as their pain. This is because mothers want their healthcare professional to understand and share their pain and give a solution in a sympathetic approach.

- **Information and counselling (n=5)**

Mothers and caretakers need full information about the condition of labour from the healthcare professional especially when the labour is difficult or prolonged since the provision of information and counselling service is essential for relieving stress. Mothers and caretakers getting scientific justification about their question from the healthcare professional with polite and good communication skill by respecting both the mother and caretake considered as good quality delivery services by explaining explain his/her satisfaction. Some participants explained as follows:

A30-years-old male caretaker his relation is husband explains his good experience of information and counseling.

> ".When I ask the midwife "Why my wife is not allowed to deliver by operation?" she responds to me...no need the operation by justifying how she can deliver normally with polite and good communication skill..."

> "…I would like to thank healthcare professionals...They tell us how it's dangerous for my life if I pregnant again by communicating as a relative with a polite approach ..."

5.3.2.2 Category 2: Safe and accessible care

Safe and accessible care includes mothers get free for all services, functional triage service, and the hospital compass system is safe for the mother. All these conditions create a good experience of delivery service for the mother and caretakers.

- **free cost of the service (n=22)**

Clients getting free of charge service without paying for all delivery services creates a good experience of delivering care and appreciates the government policy to give free delivery service. This consequently decreases maternal mortality and morbidity by increasing institutional delivery services. And also, they contribute to the level of maternal satisfaction.

This finding shows as one of the systems of increasing health-seeking behaviour of the mother is the free delivery service police of the government.

> "...there is no problem.... Since we can get every drug in the hospital freely.... And also, every service is free without any payment ..."

- **Hospital directions indicator systems (n=6)**

A mother gets a simplified system of the hospital to get delivery service easily and accessing safe direction indicator starting from getting a poster written in native language and accessing smooth footpath without step to go from one floor to the next floor creates a good experience for the mother and caretaker. Additionally, all staff of the hospital starting from the guard is volunteers to locate the labour ward for labouring mother. Mothers recognised the existence of two-way direction for labouring mothers and have direction indicator to access the hospital easily to facilitate the service. Since this finding indicates that labouring mothers specially came from rural area need assistance to locate the delivery word and other service, departments like pharmacy and laboratory departments to minimise delay to get the service and to minimise their stress to search the labour ward and another service in the hospital.

A 24-year-old male who accompanied his wife, explained his good experience stated as follows:

> "...the system is very good since they... accept us and show any direction what we want starting from the get .... The building has two ways (one-way access smooth footpath for a mother to use welter and other has footstep for normal mothers) which is safe for labouring mother ...."

> "...The existence of banners on each department in the Amharic language makes the information easy to the community..."

- **Triage care (n=12)**

Triage care means the provision of priority service by segregating clients based on the case to minimise delays of management and giving timely care based on the cases that need priority service since most of the time obstetric problem is an emergency and need a fast response to minimize maternal mortality and morbidity. Healthcare professionals should

receive the labouring mothers immediately by giving priority to other patients since labour is an emergency case. Even if triage care is a must for the healthcare professionals, participants perceived that the healthcare professionals accept labouring mothers immediately when they arrived in the hospital without delays creates a good experience for the mother and their family members as could be seen from the in-depth interview.

A 35-year-old mother explained her good experience of labour in the following way:

> "…there is no delay and once they confirm whether I am in labour they immediately admit me…"

5.3.3 Theme 3: Barrier for provision of quality delivery services

Under these themes, there are three categories and seven subcategories. This category and subcategory are staff related, infrastructure related factor and transport and also the subcategory are lack of coordination of the staff and weak administration of human resource, lack of experience, inadequate number of skilled providers, lack of diagnostic service, shortage of bed and supply, shortage of classroom and absence of the ambulance (see table 5:4).

5.3.3.1 Category 1: Staff related

Understaffing is a major barrier to implementing client-centred care (Bamm et al 2015:9). The shortage of all categories of staff puts considerable pressure on staff and therefore impacts on the quality of care that they can deliver (Royal College of Nursing, 2012:4). The participants in this study unanimously noted that the acute shortage of staff of all categories during a high workload was a major hindrance. Every one of them described the difficulties they encountered. Some examples cited by the doctors and midwives were under these categories there are three subcategories, healthcare professionals perceived that in an adequate number of skilled providers, lack of experience and also lack of coordination of the staff and weak administration of human resource were a barrier to give quality delivery services.

- **Inadequate number of skilled healthcare professionals (n=13)**

An inadequate number of skilled healthcare professionals is a major barrier for to the provision of quality delivery service. Even if the guideline states that one provider should be

assigned for one mother for providing quality delivery services, the assigned number of skilled healthcare professionals in the delivery word is not proportional to client flow since there are a high number of the labouring mothers come to the delivery ward. This leads to poor quality childbirth care since the healthcare professionals overstretched providing the service based on the standards. As research participants explained.

A 27-year-old male provider explained that inadequately skilled provider was a barrier for giving quality delivery service as the following:

> "…. In our hospital, only two healthcare professionals are assigned for the night in the delivery ward. ...to tell the reality in our hospital, a minimum of five labouring mothers comes during night... Among these, one mother may need an operation, during this period one provider will be forced to follow four mothers at a time…"

Even if labour comes most of the time during the night, non-proportional allocation of skilled human resources in the delivery ward especially during the night was a barrier to the provision of quality delivery services. This finding showed that understaffing of the hospital is a barrier to the provision of quality delivery care. Most of the time, mothers need to come to a government hospital for delivery service rather than the non-governmental and health centres because the government institution gives free delivery service when compared to non-governmental institution and the other reason is that mothers expect better service in the hospital rather than a health centre. Therefore, most of the mothers after attending ANC service in the health centre come to the hospital for delivery service out of their catchment area.

- **Lack of experience (n=6)**

Even though the university /college qualified the professionals after confirmed as they are competent and working independently, the professionals complained as they lack the skill to give quality delivery service since they did not have full exposure during their pre-service education and also, they need assistance to sure their experience. The healthcare professionals that participated in this in-depth interview explained as their skill is being a

barrier to provide quality delivery services and mothers get delivery services from students without assistance.

A 23 year's old female BSC midwife has explained the following about her skill

> "...we don't have the full skill to give quality services… there is no senior experienced professional who can share his /her experience...."
>
> "… the university teaching system is theoretical… "In all cases, we don't have the full skill to give quality services…"
>
> "…Teaching hospital gives a full mandate for students to manage delivery without assistance…"

Provider competence was a barrier to quality delivery service since the mother was managed by incompetent students without instructor or staff assistance.

- **Lack of coordination of the staff (n=8)**

There is professional bias, complex and disrespect. Even if a collaborative effort of a different professional team is essential for the provision of quality delivery service in the maternity ward, healthcare professionals who participated in this research explained as there is no respect on coordinated activity between staff such as obstetrician and the hospital managers did not want labour to be managed by midwives to give chance for students/interns to learn. On the other hand, between emergency surgery and midwives, they did not respect each other/understand their decision while managing mothers. This condition forced that the healthcare professionals think that there is professional bias and complexity since the hospital manager is a doctor and give priority to intern students and also most of the time the background of emergency surgery is health officer and nurse, except surgery the midwife they have enough skill about obstetrics, but the emergency surgeries did not accept midwives decision.

"...the obstetrician did not want clients to be examined by midwife professionals…the hospital manager did not support midwives since the hospital manager is a physician. ..."

A 23-year-old female BSC midwives explained their experience of barriers to give quality delivery services as follows.

. "...there are corruption b/n the midwife and emergency surgery… they did not respect each other during decision making …"

- **Weak administration of hospital management (n=6)**

The hospital management did not monitor the staff properly. This problem is a barrier for the provision of quality delivery services. Each department should be functional, supportive of other departments, and admit collaborative activity for the common goal since health discipline especially obstetric service need teamwork sprite. Otherwise, if each department does not take over their responsibility did not to provide quality service smoothly as the participants explain as follows.

"...the administration staffs do not visit and monitor the labour and delivery ward …"

"…guards are employed by outsourcing without considering hospital ethics; they are always in the conflicts with healthcare professional … The manager they did not correct it …"

Health ethics is not only essential for health professionals but also it is mandatory for nonhealthy professional staff. This indicates that healthcare professionals need to give awareness to non-medical staff including guards and cleaners about compassionate and respectful care.

5.3.3.2 Category 2: Infrastructure and diagnostic supply related factor

Inadequate infrastructures such as lack of diagnostic laboratory reagents, lack of a bed, supply, and lack of adequate room and space are barriers to the provision of quality delivery services. Even though there are skilled professionals to manage mothers, owing to lack of

laboratory reagents the healthcare professionals are forced to referring mothers to other health facilities and also the number of beds is not proportional to the client flow and the room is very crowded to give quality delivery service as per the standards.

- **Shortage of diagnostic service (n=11)**

Shortage of diagnostic investigation such as laboratory reagents and ultrasound machine are the barriers for healthcare professionals to provide quality delivery services, especially in primary hospital. Even if there are skilled professionals to manage every case the healthcare professionals are forced to refer mothers to another institution. Healthcare professionals think that this is unnecessary referral owing to laboratory service brings lack of experience for healthcare professionals to manage different cases, overcrowded for higher hospitals and delays managing the mother on time. In addition, mothers are exposed to unnecessary costs and suffering from private investigation and transport service since there is no transport service in the hospital.

A 23 year old female BSc midwife who participates in our in-depth interview mentioned her hospital experience of diagnostic investigation as below.

> "...mother will be forced to go to other laboratories out of the hospital…"

> "... In the presence of professional capability of treating the mothers, Mother came with PREECLAMPSIA and PROM will be forced to be referred to other hospitals because of laboratory incompleteness... ..."

- **Shortage of bed and supply in referral hospital (n=5)**

Shortage of beds and types of beds by itself is a barrier for provision of quality delivery services. Mothers slept on the floor with their newborn baby after delivery owing to lack of beds which is not convenient to give quality care. Moreover, even if mothers got a bed, the bed is very narrow with a newborn baby to apply rooming-in policies.

> "...the numbers of the bed are not enough in numbers as compared to the client flow…"

> ".Mother will be forced to sleep on the floor after delivery ... "

"...the bed is very narrow for the mother to sleep with her newborn baby …"

"...there is no drip, towel, and screen supply with enough quantity..."

Even if the healthcare professionals understand the standards, they give compromised service for the mother during labour and delivery in a referral hospital There is insufficient and appropriate beds, drape, towel, and screen to give proper delivery care to both the mother and newborn babies. This brings discomfort for both the healthcare professionals and the mothers.

- **Shortages of room and space (n= 9)**

Shortage of rooms and space are the main barriers to the provision of quality delivery services. Even though enough rooms with space are necessary to admit the mother according to the cases and enough space to give compassionate care, healthcare professionals perceived that there is no adequate number of rooms and space to give quality service as per the standards. This indicated that the already constructed hospital buildings did not consider the purpose of each service. So, the hospital's design and equipment have an impact on the childbirth practice. In-depth interview participants explained as follows:

A 25-year-old female midwife explained as follows:

"...The rooms are few in number … and each room is very narrow…to give full service for labouring mother as per the standard… it creates overcrowding..."

".It is not possible to allow one accompany for each labouring mother..."

Even if the attitude of the healthcare professional is not good to allow accompany, they explained that one of the reasons to deny accompanies is a shortage of adequate spaces. The safety of mothers is compromised with different cases admitted in one room as healthcare professionals explained to some complicated mothers as pre-eclamptic and mother came with antepartum hemorrhage need isolated room for giving full care and minimize complication. But because of lack of adequate room, all normal and abnormal

delivered mothers were admitted in one room with attendants. During this time, the room is congested, and the congested room with lack of sanitation exposed for neonatal sepsis.

> ".... The overcrowded post-natal rooms with attendants exposed the newborn child for developing neonatal problems... **"**

> **"...**Safety is not kept properly together with sanitation..."

> "...risk mothers (Pre-eclampsia and APH) admitted with normally delivered mother… even if they need isolated rooms..."

5.3.3.3 Category 3: Transport

Lack of transport was one of the barriers to the provision of quality delivery services. Even if the area is a hospital, there are cases that need referrals to a higher level.

- **Absence of ambulance**

There is a poor referral system in the hospital resulted from the absence of an ambulance with a responsible driver in the hospital. This leads to first, delay to arrive on time and next, delay to managing on time. Moreover, as the healthcare professionals explained that this situation creates discomfort for both healthcare professionals and clients.

> "…Absence of ambulance is the main obstacle to give quality delivery services... The hospital did not have its own ambulance… we request from the woreda health office when referral cases were faced …But even the sectors permit having ambulance the drivers switched off their mobile and due to this reason delay two will be created and mother will be exposed for the delay to manage on-time..."

> "...after referring the baby is dying yet arriving on referral hospital..."

The Ministry of Health did not consider the importance of ambulance for hospital but there are referral cases from the hospital to hospital.

5.3.4 Theme 4: Barrier for use of quality delivery service

Under this theme, there are four categories and 11 sub-categories. These categories and sub-categories that cause barriers to use quality delivery services are in the accessibility of

drug and supply, lack of individualised care, discrimination, and getting the service by students. Under this category, the subcategories are delay treatment owing to inaccessibility of drug, lack of continuous care, difficulty to identify the healthcare professionals, discrimination owing to place of residence, discrimination owing to healthcare professionals intimacy, lack of healthcare professionals competency, Unable to take responsibility, delay to treatment owing lack of individualised care, security (safety) problem, financial burden and supply.

5.3.4.2 Category 1: Inaccessibility of drug and supply

Inaccessibility of drug and supply in the hospital campus was a barrier for receiving quality delivery services for the mother since it brings delay to treatment, security problem for the family members that assist the mother, and financial problem in addition to inaccessibility of supply.

- **Delay to treatment (n=8)**

Mothers want to have information about birth preparedness plans of time since lack of preparation leads to delay treatment during childbirth. Even though the maternal health service is free service, the ANC healthcare professionals and health extension workers have a responsibility to prepare a mother during ANC about birth preparedness ahead of time. Payment is one component of birth preparedness and complication readiness plan for coming to the hospital for delivery services, as participants explained as no one is informed about the necessity of fund as a reserve for childbirth which leads to inaccessibility of drug in the hospital is one cause of delay treatment for mother.

> "...they asked to buy medicines from a pharmacy outside the hospital ..... but we did not Bering money for medicines. .... Otherwise, we… Couldn't manage your wife...."

- **Security problem (n=11)**

Healthcare professionals order drugs during night and request the family members to bring drugs out of the hospital campus which creates security problems for mothers' care takers by criminals in the streets. Since during night, only one family member present for mother and one person alone goes to the street during the night the chance of exposure for criminals is high. This condition creates stress for the mother for concerned her family members

suffering to buy medicines during an unsafe period. Mothers perceived that asking to buy drugs during nighttime out of the hospital campus was a barrier for getting quality delivery services.

> "...During night (5:30 hours) healthcare professionals ordered me to bring drugs. …This drug was not available in the hospital and I forced to search from other private pharmacy but most of the pharmacies were closed during the night and the time is exposed for the illegal person (criminals). Therefore, it is better to be available medicines in the hospital and drugs during the night must have additional cost rather than normal time drug cost..."

- **Financial burdens**

Inaccessibility of drugs in the hospital pharmacy exposed the mother and their families to unnecessary costs and those poor mothers who do not afford medicines costs were exposed to delay treatment after arrived on the hospital campus even if, the government endorsed maternal care service should be given freely. Asking mothers to buy medicines in the private pharmacy out of the hospital campus was a barrier for getting quality delivery service. Since the private pharmacy cost of medicines was very expensive. On the other hand, most of the time mothers who come to the hospital for delivery service are poor people since the mother perceived that the hospital service is free for maternal service.

> "...yesterday I have forced to buy medicines out of the hospital, just to start medicines this situation exposed us to unnecessary cost since the pharmacy drug cost is high..'

> "…Tax fee and time killing in searching medicines out of the hospital... "

> ".. Poor people might not have to offer medicines cost which will lead the mothers to be under risk owing to lack of treatment on time **...."**

- **Supply (n=6)**

Mothers need comfort and to minimise their pain during labour and delivery in the institution but the inaccessibility of the necessary supplies in the maternity room like linen affects mother

safety when sleep on the rubber sheet during delivery and after delivery without linen which brings pain and discomfort owing to irritating her body by a rubber sheet. Mothers perceived that lack of necessary supply in the maternity room was a barrier to quality delivery care.

A17 years old para one mother explained her experience of care as flow as.

> "... I am sleeping on the rubber sheet which irritates my body, even if I tried to use family clothes, all the clothes have been socked again with blood which forced me to sleep on the rubber sheet without linen ..."

5.3.4.2 Category 2: Lack of individualised care

Under this category, there are three subcategories for a barrier to getting quality delivery care such as (delayed treatment, lack of continuous care, and difficulty to identify the healthcare professional).

- **Delay appropriate treatment (n=5)**

There is no communication among healthcare professionals. Even though assessing mothers with different professional consultations is good, lack of one responsible provider assigned for each mother to take the action by coming to the consensus-based on different physician consultations and informing to mother about her management condition which creates a delay for management of mothers. In some of our in-depth interviews, participants explained their concerns as follows.

> "…Different categories of healthcare professionals order separately different drugs …One provider disproved the other order. …5 hours during the night one physician order me to buy a drug for cervical dilatation...After I bring medicines; another provider rejects the already bought drug and order injection…still now I did not get the treatment…"

Lack of assigned provider to take responsibility for the mother's condition and lack of mother involvement in decision making on her management not only creates delay to diagnosis and treatment but also lack of trust in the healthcare professionals.

- **Lack of continuous care: (n=8)**

Mother and family members need to be updated about every status of the mother's condition continuously. But to give full information about the condition of the mother continuously healthcare professionals need some period to stay with the mother to follow her condition and established good relationships with the mother. Continuous care includes providing and sharing information of care required by the mother and caregiver. Even if continuous care is important to develop a rapport and trust between provider and mother, it is important for the healthcare professional to easily understand the progress of the problem of the mother to take an action accordingly and the outcome is good. As the majority of in-depth interview explains that there is no responsible provider to give continuous care for the mother since the healthcare professional is shifted frequently to different units before establishing a relationship between provider and mother; so, they cannot differentiate as to which healthcare professional is responsible giving information.

A 28-year-old male accompany explained his experience of continuous care as follows:

> ".. I need to have continuous information about my wife's condition, but there is no one and known healthcare professionals who follow the mother. …Due to this fact, it is not possible to consult any change and problems of mothers... if there was one provider who follows mothers, he can understand the problem easily and the changes from day today. Even mothers can communicate easily or friendly with the healthcare professional..."

- **Difficultness to identify the healthcare professional**

Mother needs enough contact time and introduction to know her healthcare professional by name and profession. But the healthcare professionals shift frequently before mothers identifying her/his name and profession. Moreover, even if a healthcare professional should wear identification badge by preparing highly visible and readable to the patients and administration to put mothers' full trust in their healthcare professionals and for their security especially in the hospital with a large number of peoples passing through in the facilities, the healthcare professionals did not use appropriate identification badge. Even if certain

healthcare professionals use it, it is not readable for the community as almost all in-depth interview participants mentioned that as a barrier to getting quality delivery services.

"..., it is not possible to identify doctors from nurses or students..."

"...The English language cannot be read by attendants..."

"... I did not remember the name of the healthcare professional who gave me care..."

5.3.4.3 Category 3: Discrimination

Under this category, there are two subcategories that cause a barrier to get quality delivery services. These are in terms of their place of resident and social attachment of the provider.

Discrimination owing to place of resident (n=7)

Mothers and caretakers need safety and equity treatment care irrespective of their residence. Even if rural mothers are under more risk and need priority service than urban women, they also need a more skilled person to protect their safety. From the rural area, mothers lack information about reproductive health service, and they are inaccessible the service owing to the place of resident far from the hospital and also they reach after the problem is complicated than urban mothers. Participants explained that mothers who came from the rural area they exposed for delay treatment after arriving in the hospital (3rd delay) and it affects her safety, students prefer to practice their skill on rural mother than urban since they understand rural mothers do not have knowledge about her right of consent and they cannot refuse for any procedure. These results discrimination owing to the place of the resident is a barrier for quality delivery services

"...There is partiality between urban town and rural mothers in giving the service. Yesterday I see one mother from a rural area came before my wife ... she stays long period of time without examination...in the morning she died without getting appropriate treatment..."

"...Students prefer rural mothers for their practice than urban mothers ..."

Even though rural mothers are at more risk than urban mothers and need priority care, there is no equity service given by the healthcare professionals in the hospital. This indicates discrimination is one cause of maternal mortality and morbidity.

Discrimination related to knowing/unknowing of healthcare professionals (n=6)

Healthcare professionals give more attention and priority cares for their social attachment, even if the healthcare professional should give services for all equally based on the severity of the cases. But mothers get service if she knows a provider or if she has relative staff members in the hospitals as participants perceived that to get delivery service you should have relatives or friends if not you did not get a service.

A 35 year old mother explained her experience of discrimination as follows:

> "...I was under excessive bleeding ... my husband goes to the staff room and requests them by saying my wife is bleeding excessively please help her... But they said the one she managed should come and support as she starts... At this time, unfortunately, I have seen one midwife who knows me while giving service for other ..... immediately he came and see, he node his head by the situation that my bed was soaked with blood and under the bed the floor was full of blood. Immediately he wears a glove and removed my placenta manually...."

5.3.4.4. Category 4: Service given by students

Under this category, there are two subcategories which are lack of competency and unable to take a responsibility, for their provision of care.

Lack of competency (n=5)

Mothers did not want to give birth in a teaching hospital. Incompetency of the students was a barrier for a mother to receive quality delivery services and to come to the government teaching hospital for delivery services. Since mothers perceived that students giving a service just for learning but not for giving service for mothers since they are not empathetic while giving care and the care is painful. They are not competent yet. As the majority of the in-depth interview participants explained as follows:

"...The students are not yet competent to give delivery care. To tell the truth …the people are forced now to go to the private clinic since the teaching hospitals give the mandate to their students..."

".We don't want to be manqué for students playing in the hospital..."

". ... Needle is giving like an animal without informing mother and it's very painful but when to go to a private clinic, they manage properly every information is given and was not painful... no student in the private clinic..."

Provider competency and experience has key for maintaining quality delivery services. As described above provider competency and experience is important for client's satisfaction and determines their preferred place of delivery.

Unable to take responsibility (n=7)

Mothers need a confidential, competent, and responsible provider to support them by staying with them and taking proper action when the problem is happening. A mother getting service from students who are unable to take responsibility was a barrier to getting quality delivery services. They exposed for life treating complication even though she is in the facility since students did not want to take a risk/shared risk owing to fear of their instructor to consult/blaming/ for the skilled midwives and lack of competency to manage complication. Most respondents perceived that students did not take responsibility for their provision of the service for the mother.

".While she was managing the placenta, she was pulling the cord forcefully..... In this situation, the cord is detached from the placenta and she automatically leaves me alone..."

5.3.5 Them 5: Cause of mothers and Healthcare professionals' discomfort

Under this theme, there are six categories and subcategories for mothers who feel discomfort/disappointment while receiving child delivery services. These are lack of privacy,

ethical misconduct, service given by students, reluctance to give care, and lack of job satisfaction.

5.3.5.1 Category 1: Lack of privacy

No assuring privacy (n=15)

Mothers need and expect more physical privacy in the labour and delivery room during the examination. Owing to this expectation, mothers were disappointed and felt discomfort when healthcare professionals were not concerned about their privacy. Mothers understand healthcare professionals' assured their privacy and give value while they said, and practice not allowed accompanies and any person in the labour ward except staffs by putting guards at the get of labour ward. But it is not for the purpose of privacy since they examine me in an open bed without a screen every person (staff and students) observed my exposed body. This condition created great shame and discomfort as almost all participants explained.

> "…assuring privacy is unthinkable by healthcare professional... "
>
> "…Examination of our uterus without a screen in the presence of everybody in and out the room... is considered as a normal ..."

> "…let me tell you the fact that I have seen in the room that my wife was requested to give a urine sample in the presence of different healthcare professionals and students... This situation created discomfort for my wife to give a urine sample...."

5.3.5.2 Category 2: accompany

The situation which did not allow their preferable accompany by the healthcare professional for labouring mothers causes disappointment among mothers who received childbirth delivery service.

Not allowed accompanying (n=16)

Mothers need to be accompanied by their family members and consider them as energy, sharing pain and facilitate their labour. Even though having accompanies is evidence-based care for improving quality of care during labour and childbirth, healthcare professionals did not respect and permitted their request to get accompany to facilitate their labour and delivery

processes. Therefore, mothers were disappointed and feel discomfort as almost all the research participants explained as follows.

> "…Since from my experience I gave birth in the presence of my family, I asked the healthcare professional to allow my family members, but she did not allow…"

> "... It is energy for me and shares my pain..."

5.3.5.3 Category 3: Ethical misconduct

Unethical treatment of mothers by healthcare professionals while receiving childbirth care created disappointment and discomfort on mothers.

Abuse (n=9)

Mothers and family members were abused verbally and physically especially by lower-level staff like guards, cleaners and students. For the purpose of learning students performed painful vaginal examination repeatedly on different mothers, and also, they forwarded offensive words such as shouting, insulting, and pushing harshly.

> "...unnecessary vaginal examination is done repeatedly by different students...it was very painful more than labour pain..."

> "..While my labor pain became strong I tried to grasp her and automatically she said don't touch me….."

> "…the nature of activities is complex which is giving a service to mother's b/n life and death. The healthcare professionals might be emotional and speak unethical words for mothers ... but we mothers did not forget it. Because of this, I don't want to come again by other time to this hospital..."

> "...let me tell you what I feel yesterday the healthcare professional asked a mother by saying have you urinate on your clothing? ...Since you have a bad smell..."

Ethical care is important for giving quality delivery services and promotes institutional delivery services. Therefore, the healthcare professional and other staff should be calm and think before uttering swearing words to the mother and caretaker since the mother's place of delivery is decided by ethical service.

5.3.5.4 Category 4: Reluctant to respond to mother's call

Mothers were disappointed when the healthcare professional does not respond to their request service.

Reluctant to respond and to give care for mothers (n=9)

Mothers are not getting service in the delivery ward. Mothers and caretakers expect the healthcare professionals to strictly follow the mothers' condition frequently and take measures ahead before the condition is complicated. But the healthcare professionals are not giving proper care even while consulting them instead of responding to offensive words and lying to us. This condition creates disappointments for mothers and caretakers because of the healthcare professional's reluctance and ignorance to respond to their consultation services.

A 29-year-old male caretaker explained his experience with the healthcare professional's response while asking for consultation for his wife.

> "...During the night when we want them for consulting, they complain by saying we had slept but they are on Facebook by using their mobile..."

> "… I requested the doctor... to discontinue the needle, but there was no positive response even the female healthcare professionals not volunteer...".

5.3.5.5 Category 5: Service given by incompetent healthcare professional

Mothers disappointed owing to lack of service by competent healthcare professionals

Service is given by students (n=13)

Mothers are disappointed by the lack of service by competent healthcare professionals. Mothers perceived that students yet not competent to give delivery services. On the contrary, mothers come to referral hospital expecting to get better skilled full and experienced senior healthcare professionals to get appropriate quality delivery service starting with first assessment. However, the referral hospital gives service out of mothers' expectations and is managed by students. This situation leads to mother's disappointment with childbirth provision. They also suggest that mothers should be examined by competent senior healthcare professionals especially when a mother came as referral cases and students should be managed under senior experienced provider supervision. Even if the students should consult after assessing the mother if the case needs senior experts.

> " ... mothers who came from health centres by referral were examined by students… which are wrong…"

> "…since she is referred to get a better provider... she has to be examined only by a skilled provider ..."

> "…Students should not examine mothers without senior healthcare professionals...since they are not skilled full..."

5.3.5.6 Category 6: Lack of job satisfaction

Under this category, there are two subcategories which are poor payment and lack of recognition. Healthcare professionals' lack of job satisfaction negatively affects their provision of quality childbirth delivery service.

- **Poor payment of the healthcare professional(n=12)**

Unbalanced payment with the workload and different payment between the same professions affects quality delivery service and creates dissatisfaction of the healthcare professional by their job. They also suggested the government should revise and improve the midwife's payment by conceding the complexity and workload of the labour ward.

> "...payment in government and private hospitals is different for the same healthcare professionals..."

"...Private hospital mothers get quality service such as clients and family to have their own decision-making involvement, but which is not practical in government hospitals..."

- **Lack of recognition**

Lack of midwives' recognition by their activities leads to poor quality delivery service, loss of midwives experience, lack of trust by the organisation management, and dissatisfaction with their job. Midwives need and expect getting recognition for their profession since they understand that they are competent enough and most of the labour ward activity cover by midwives. But, in a teaching hospital, they are ignored, and their job took over by intern students which causes the midwives to be disappointed by their job.

"..Teaching hospital gives a full mandate for students to manage delivery without assistance…"

5.4 Perceived quality delivery care

Perception of quality delivery service means asking the questions such as, what are the quality delivery services, to what extent to say quality delivery service, and what is their feeling about quality delivery service? In general, the above questions had been asked for all the participants. Even if the definition of quality is multidisciplinary, most of the participants mentioned their perception towards the main components of quality delivery services based on the Donabedian model as follows.

Quality delivery service means giving delivery service for the client with the fulfillment of the standards by competent healthcare professionals from admission to discharge. Moreover, quality delivery service means giving quality delivery service by fulfilling all direction that means the physical structure of the hospital including humane source and interpersonal care that is respectful maternity care for both the mother and the baby by respecting her dignity and safety.

A 26-years-old of healthcare professional having BSc in midwife mentioned quality delivery service as follows.

> "...quality delivery service can be given only when the infrastructure including Human resource, drug and supply have been fulfilled ...since if the infrastructure is fulfilled that is conducive environment for provider giving quality service for all equally and also these brings both providers and maternal Satisfaction .... Since quality delivery service means serving the mother properly and accepted service timely with safe and technical sound care...."

A 35-year-old mother described quality delivery service as follows:

> "...Quality delivery service means giving a rapid and welcoming response of the mother by prioritising clients who require the most urgent care with respect and humbleness for mother and their family members in a clean environment with equal treatment and encouragement..."

When overall quality perception questions were presented for the healthcare professionals, labouring mothers and caretaker/ attendants that accompany mothers according to the Donabedian model, they responded that without fulfilling all the three dimensions of the quality domain, they did not get quality delivery service since they perceived that one component is a prerequisite for the other. Where structure encompasses the availability of physical structure creates a conducive environment for quality care process in addition to healthcare professional's competence about client handling and effective communication and client accepting services. Good process (good client handling and good communication) has a good outcome and maternal satisfaction.

5.5 Summary

In the current chapter, the qualitative part of the study based on in-depth interview findings has been presented. The in-depth interview data were collected from 57 mothers, healthcare professionals, and family members who accompany the labouring mothers to obtain quality childbirth care. Based on the participant's perception of the interpersonal quality of childbirth five themes, 17 categories and 34 subcategories emerged. The themes that emerged from data analysis were perceived quality of childbirth, good experience of childbirth, barrier for provision of childbirth care, barrier for use of childbirth care, and cause of healthcare

professional and client discomfort /disappointment/ with childbirth care. Under each theme, there are categories and subcategories. 2 categories and 4 subcategories for perceived quality of child birth, 2 category and 5 subcategories for a good experience of childbirth care, 3 categories and 7 subcategories for barriers to the provision of childbirth care, 4 categories and 11 subcategories for barriers for use of childbirth care and 6 categories and 7 subcategories for the cause of discomfort /disappointment of mothers and healthcare professionals during childbirth care.

CHAPTER 6

PHASE I: DISCUSSION OF THE FINDINGS

INTEGRATION OF QUANTITATIVE AND QUALITATIVE INETPRETAION OF RESEARCH FINDINGS

6.1 Introduction

The previous chapter outlined the data analysis and findings. This chapter discusses both the quantitative and qualitative study findings by synthesizing the two approach findings of the study objectives, based on the Donabedian model and themes that emerged from the data analysis. The objectives that guided the study were:

- To assess quality of delivery care service in terms of structure, process and outcome at public health facilities in North West Ethiopia.
- To investigate maternal satisfaction with the quality of delivery service provided in public health facilities in North West Ethiopia.
- To explore and describe participants' perspectives on quality childbirth care in public health facilities in North West Ethiopia.

- To Identify factors associated with process and maternal satisfaction dimension of quality delivery care services in public health facilities in North-west Ethiopia ..

This discussion presented from the mixed method of data collection and analysis by using a cross-sectional survey data and inductive data analysis strategy to explore participant's perception of quality delivery services to develop client centered guideline.

Based on the Donabedian model from quantitative method of study three components of approaches were used to evaluate quality delivery service and also five themes that emerged from the qualitative study were included while the interpretation of the findings is synthesized or merging of the discussion are presented in the following paragraphs.

6.2 Biographical Profile of the Participants

The age range of the healthcare professionals who participated both in the key informant and managing labour and delivery in the quantitative study was 22-40 years with the mean age of 27.6 years like another study (Ababa et al 2019:1). More than one-third of delivery was conducted by medical interns and MSC clinical midwifery students like national health workforce practice (Dejene et al 2019:4). The age range of the mothers who participated in the study to assess maternal satisfaction was 14-48 with a mean age of 26.94(±5.655 SD) years and more than half of the participants were within the age group of 25-34 years like that of the reproductive age of the population of mother in the country (EPHI&ICF 2016:14; Demas et al 2017:1; Chalmer & Dzakpasu 2015:375). This reflects the mother who gave birth in the institution is the young age structure of the population. Younger women were possibly had no labour experience and feared labour complication to give birth in the home as compared to older women and they found to be more likely to deliver in the health facilities. Of the total interviewees, 224(28.1%) were unable to read and write, 41(5.2%) read and write, 335(42.2%) were primary and secondary education level and 194(24.5%) were college/university level of education is supported by a study done in Egypt (Sayed et al 2018:3), Ethiopia (Mesfin & Dheressa 2018:32). But according to Ethiopian national demographic characteristics of education and literacy level, those participants who had read the entire sentence were assumed to be literate (EPHI & ICF 2016:68). Based on this,

(71.9%) of mothers who participated in the study were literate since education is an important factor to influence facility childbirth utilisation (EPHI & ICF 2016:33).

6.3 Integration of research

6.3.1 Input

The provision of quality delivery services is dependent on the availability of adequate skilled human resources, equipment, supplies, and infrastructure. In this study, only 3 (37.5%) hospitals fulfilled a minimum standard of infrastructure, skilled human resources, basic equipment, materials, drugs, and supplies to provide quality delivery services. This study input quality was under the standard only 37.5% of the hospital fulfilled the necessary infrastructure like a study conducted in Kenya in which the average score of infrastructure for maternal care was 12% (Sharma et a.2017:2). In this study, almost all facilities have electric power in the maternity ward but 50% of the facility did not have water in delivery wards like other studies conducted in East Africa where half of the facilities experienced water shortage for practicing infection prevention in the delivery ward. In Rwanda, 37% of the facilities did not have piped water (Gon et al.2016:10) and in Uganda and Anambra State, Nigeria only 37.6% and 38% of facilities had running water near the delivery ward respectively (Ifeadike et al 2016:5; Wilunda et al. 2015:4).

About 50% and 37.5% of the hospitals in this study fulfilled infection prevention materials and functional toilets respectively, which is higher than other studies conducted in Ethiopia 6.3% of facilities fulfilled infection prevention materials (Yigzaw et al 2017: 4), in Arbaminch only in one hospital (11.1%) out of none hospitals fulfilled infection prevention materials and only six facilities fulfilled toilet (Dewana et al 2016:33).This difference may be due to study setting that our study was done only in hospitals including teaching hospitals which have a chance of accessing infection prevention material from different doners for the purpose of teaching where as other studies done by including health center.

Concerning medicine supplies, almost all essential drugs were available in all hospitals whereas in another study was conducted in Ethiopia 16.3% of facilities fulfilled essential drugs (Yigzaw et al 2017: 4) and in Arbaminch six (66.6%) facilities fulfilled drug for clients (Dewana et al 2016:33) and maybe this discrepancy happened in the same country that this study included teaching hospitals. Being a teaching hospital, the budget is allocated from

federal government directly and which have linkage and supports from different governmental and non-governmental organisations to facilitate teaching and learning processes.

Even if skilled human resources are not proportional to client fellow in this study, all hospitals have skilled human resources based on the standards and at least one skilled provider was trained in neonatal resuscitation (HBB). This result showed that the standards are not developed based on the client fellow which revealing that without proportional allocation of skilled human resources quality of care was not considered. However, this study is better than another study conducted in Ghana, (Ameyaw et al 2020:1). In Italy only 36.7% fulfilled human and physical resource (Lazzerini et al 2020:4) and in Malawi and Low income countries in Africa a systematic review study presented that there were lack of sufficient workforce in health facilities (Mgawadere et al 2017:7; Dahab & Sakellariou 2020:10). This may be that instructors in the teaching hospitals may be considered as regular workers even though they did not always present in the hospitals since their activity is teaching. The qualitative findings also supported this findings majority of the maternity ward staff described that inadequate number of skilled healthcare professionals is a major barrier for the provision of quality delivery service. The number of skilled healthcare professionals assigned in the delivery ward is not proportional to the client flow especially during the night leading to overstretching of the healthcare professional team and substandard care.

According to the national guideline, all hospitals should give comprehensive EMONC services. To give these services at better quality, capacitating the health professionals through training in lifesaving skills, improving interpersonal communication and counseling skill is important (Ameh et al 2019:257; Mersha et al 2019:1) But in this study, none of the skilled healthcare professionals have received the capacity building CEMONC training in all hospitals to provide quality service. Similar to studies conducted in the Philippines (Castillo et al 2016:4) and Addis Ababa, only 12% (5/42) had received one component of CEMONC training and none had completed all components of CEMONC training (Austin et al. 2015:5).

Even though there were delivery and episiotomy sets in all hospitals, there was a gap in other equipment and supplies in the delivery ward where only one hospital has functional and adequate screen to give friendly service by securing privacy and the number of functional beds and examination table was below the standards. In this study, only 2 (25%) hospitals fulfilled the standards of first stage bed and this is similar to another study

conducted in Ghana and Uganda (Ameyaw et al. 2020:1; Wilunda et al. 2015:4) respectively. This highly supported by the qualitative findings. The issue of lack of supplies was repeatedly mentioned in in-depth interview with healthcare professional as it is major barrier for provision of quality delivery care services. Lack of diagnostic laboratory reagents and supply, healthcare professionals are forced to refer the laboring mother to another health facility. This result, delay in management, and exposure to unnecessary cost and suffering in private facilities, lack of bed, and also lack of adequate room and space were forced Healthcare professionals to give compromised service. Mothers slept on the floor with their new born baby after delivery owing to lack of beds which is not convenient to give quality care. This situation creates discomfort for both the healthcare professionals and mothers.

Regarding delivery couch, only 65% of the hospitals fulfilled the standard but as compared with other countries, this is better than other countries like in Kenya in which 7.4% national and 1.0% district hospitals have delivery couch respectively (Owili et al 2017:6). This difference maybe our study included referral/teaching hospital even though it is not proportional for client's fellow. The referral hospital fulfilled the standards since the referral /teaching hospitals are supported by different organisations. Almost all hospitals lack transportation and infrastructure as well as overcrowding as the referral hospital. Since our country is poor and cannot afford to buy ambulances for all institutions, therefore, they allocate the ambulance for health centers than hospital by prioritising and considering the problem and the capacity of managing critical cases is difficult at the health centre. So, most of the time mothers referred from the health centre than from the hospital even if the primary hospital has an opportunity to refer mothers to the next hospital. This study is similar to the study in Arbaminch in which only two hospitals have ambulance out of nine hospitals (Dewana et al. 2016:33*).* Studies were conducted in Uganda and Nigeria reported only 46% and 41(31.2%) of the facilities have a functional ambulance for delivery services (Wilunda et al.2015:4;) in Addis Ababa one cause of delay in referral from one hospital to another was the absence or limited availability of ambulances in the hospital (Teklu et al 2020:1). The qualitative findings also corroborates this findings described that no ambulance service in the hospital. There is a poor referral system in the hospital resulted from the absence of an ambulance with a responsible driver in the hospital. This leads to first, delay to arrive on time and next, delay to managing on time. Moreover, as the healthcare professionals

explained that this situation creates discomfort for both healthcare professionals and clients The Ministry of Health did not consider the importance of ambulance for hospital but there are referral cases from the hospital to hospital.

In our study 6(75%) and 7(87.5%) of hospitals have incubator, a bag and mask for newborn resuscitation respectively. Similar to a study conducted in Namibia, almost all hospitals and in Kenya 50% of hospitals had incubator and 80% of hospitals in both countries had bag/mask for newborn resuscitation (Diamond-Smith et al 2016:8) respectively.

In this survey, all hospitals have partographs, 6(75%) have vacuum extractors, 4(50%) functional sphygmomanometer and oxygen whereas other studies conducted in Nigeria 16 (53.3%), 17 (56.7%), 28(93.3%) and 7 (23.3%) of hospitals have available respectively (Ifeadike et al. 2016:.5).

The refrigerator was available in 6(75%) hospitals in our study and a similar percentage of the facility in Uganda had refrigerator 77% (Wilunda et al 2015:4). The justification is that all the above countries are African countries which have similar future in economic status in our study area. This indicates that infrastructure is depending on the country's economic situation.

In general, this study showed that some facilities fulfilled some necessary equipment and supplies to provide high-quality delivery services based on the standards of care in one dimension but not fulfilled in others. There were enough emergency drugs and consumable supplies for maternal care but not essential newborn care materials. For example, in this study, no hospital had towel for drying and covering the baby immediately after delivery. This indicates that there is a gap to give quality delivery services. This finding was in line with another study conducted in southern Ethiopia only 45.6% of mother dried their baby with prepared towel (Chichiabellu et al 2018:5). In the Philippines, towels for drying the baby are provided by family members instead of facilities (Castillo et al 2016:6) and study conducted in six sub-Saharan African countries revealed that the largest gap to give newborn care were lack of towels for drying the baby (de Graft-Johnson et al 2017:6). This finding supported by qualitative findings majority both healthcare professionals and mothers who participated in the in-depth interview described that not enough quantity of drape, towel, and screen to give proper delivery care to both the mother and newborn

babies. Over all the data showed that shortage of essential equipment and supplies in the maternity room affects essential newborn care and including immediate postnatal care (John et al 2018:5).

And also, in our study in 7/8 (85%) of hospitals have important guidelines like Mgso4 administration flow chart, hand washing practice, and neonatal resuscitation flow chart. Whereas in another study conducted in Ethiopia, 53% of hospitals had such guidelines (Canavan et al 2017:475). The possible reason for this difference may be our study includes teaching hospital they avail this guideline for the teaching and learning process.

6.3.2 Process

Even if the Donabedian model define quality of care in three components (Tuncalp et al 2015:1047), process quality components are the most useful domain to evaluate the quality of delivery care (Tripath et al 2015:3) since the process domain is actual delivery care service between provider and client interaction which determines maternal satisfaction (Srivastava et al 2015:1). In this study, only two among eight hospitals (25%) (CI 95%= 050%) fulfilled the process quality measure items. That means it included the women getting quality service based on the national guideline standard starting from admission until postpartum period including the healthcare professional interaction/communication skills while giving the services. The process quality performance was low in this study. The findings are lower than Northern Ethiopia 31.25% of facilities met the process of quality performance standard (Fisseha et al 2017) and in India 33.3% (Sharma et al 2017:424), but greater than Ghana18 % (Nesbitt et al 2013:1) and Kenya 0.58 (SD0.17) (Sharma et al 2017:5*)* and Process quality depends on provider competence based on clinical and non-clinical skills. One of the main reasons for poor process of a quality domain is the incompetence of the healthcare professionals and an inadequate number of health care professionals. There are government efforts to improve skilled human resources in number and quality by trained midwives and other skilled healthcare professionals in different university and colleges and to improve skill or competency of the health care professionals by preparing and conducting different capacity building training, such as newborn resuscitation, infection prevention and basic EMONC (BEmONC) for the healthcare professionals (FMOH 2010:50-54; FMOH 2013). And also, global maternal and newborn healthcare standards state and recommend that competent staff must be available at all times to provide quality care service to every woman

and every newborn (WHO 2016) but, still there is incompetent healthcare professionals in our study area (Yigzaw et al 2017:1). This difference may be owing to poor performance of the teaching and learning process in the university. From our observation, the students come to the hospital for practical attachment without their instructors, with no one guiding and coaching the students. In addition to this, there were a high number of students assigned to each attachment site.

And also quality improvement strategy of evidence based training modality of CEMONC and BEMONC trainings are most of the time given in job (in-service) training but not in the university/college(pre-service).Under these circumstances, most of the graduates' might not be competent even though the objective of training/learning is reaching the trainee to be competent (Mosadeghrad 2014:214).This is supported by qualitative findings some of the healthcare professional in-depth interview participants mentioned that lack of experience/poor skill was found to be a barrier to give quality delivery service and also majority of mothers who participated in the in-depth interview described that Provision of care by incompetent and less experienced students was a barrier to using quality childbirth care services .

Moreover, there is also negligence owing to poor job satisfaction by the poor management system and payment is not proportional with a workload which unsatisfied healthcare professionals by their living standards, owing to this they may not give friendly service to their clients (Manyazewal et al 2016:1; Munabi-Babigumira et al 2017:3). All these circumstances affect intrapartum delivery care services as supported by our in-depth interviews and other studies (Machira & Palamuleni 2018:25, Fisseha et al 2019:6, Weldearegay et al 2020:1).

Efforts were made over the past decade to reduce adverse outcomes for pregnant women and newborns, increasing skilled delivery at health facility have been directed as a key strategy (Hagos et al 2014:1) and health transformation plan in Ethiopia as highlighted by the key components of the intervention to reduce the adverse outcome of pregnancy is increasing delivery at a health facility with the skilled medical person (EDHS 2016:133). This has resulted in relatively high rates of births in the health facility in all regions of Ethiopia, especially in the hospitals. The proportion of deliveries reported attended by skilled health personnel in Ethiopia increased relatively from 6% in 2000 to 48% in 2019 (EDHS 2019:14). But from a human resource point of view, the number of skilled healthcare professionals is

not proportional with client fellow in many facilities even though the government tried to apply efforts to increase skilled human resources by using different strategies. This situation brings a paramount barrier to giving quality service based on the standards (Tunçalp et al 2015; Wilunda et al 2015:9). The qualitative result also corroborates this finding that majority of healthcare provider participated in the in-depth interview described that there is inadequate human resource in the delivery ward. The un proportional ratio of a laboring mother with healthcare professionals contribute to provision of poor-quality delivery care service for the mother (Wilson-Mitchell et al 2018:1). And also, mothers who participated in the in-depth interview described that Lack of assigned one responsible provider for each mother was a barrier to use quality childbirth care.

Regarding infection, prevention practices had a poor result in this study when we see hand hygiene and perennial care were performed poorly. Since before physical examination, wearing a sterile glove in both hands was only 20(10.4%) cases, for proper hand hygiene and vulva cleaning before performing vaginal examination were 6(3.1%) and 6(3.1%) respectively lower than the study done in Malawi 72%, 31% and 42% respectively (Brenner et al 2015:11). Moreover, when you see in terms of hospital, none of them were practicing the above infection prevention protocols. `

- **Admission**

Most of the health facility has good performance on history taking which includes a personal, medical, and obstetrical history of the women. This finding is better than other study done in Coitre De Voire history taking was brief and incomplete: only 26% were asked about the onset of labour pains, and 33% were asked about the status of the membranes (Delvaux et al 2007:6) and other study conducted in Tanzania and low and middle countries history taking is incomplete (Miltenburg et al 2018:4; Munabi Babigumira et al 2017:23). This difference may be study sites; our study is done in a teaching hospital, in teaching hospital most of the time labour and delivery responsibility takeover by intern students. Those students take deep and complete history for the teaching and learning process. But our finding similar to other study conducted in the Amhara region 82.6% (Yigzaw et al 2017:6), and also other study done in Kenya healthcare professionals took personal, obstetrical, surgical, and medical history 82% took proper history (Abuya et al 2018:54.)

In this study, some of the technical aspects of quality care during the physical examination were performed in all hospitals; blood pressure, fundal height, and fetal heart rate were measured in 8(100%),7(87.5%), and 8(100%) of the hospitals respectively. On the contrary, some of the key measurements were not done in all health facilities of this study such as maternal pulse and respiratory rate were measured only in 1(12.5%) and uterine contraction in 4(50%) of the hospitals. Even if pulse rate and respiratory is the most important part of vital signs under initial assessment of the mother to confirm the obstetric mother's health condition (Harker et al 2017:20), most of the time healthcare professionals consider labouring mother is under normal condition unless she has danger signs (Miltenburg et al 2018:1) maybe this is the reason why the healthcare professionals neglect this important vital sign. Similarly, another study in the Tigray region pulse and respiratory rate was recorded in 9.4% and 12.5% of the facilities respectively (Fisseha et al 2017:5). In contrast, another study conducted in Kenya found that blood pressure was taken at a frequency of 70-85% but 60% in Namibia (Diamond-Smith et al.2016:6) and India fundal height 1.1% (Sharma et al.2017:424) and in Tanzania blood pressure was rarely measured (Miltenburg et al 2018:5).

- **The first stage of labour**

One of the common limitations to the quality of delivery services was using partograph to follow the progress of labour. Partograph is one of the appropriate tools for monitoring labour progress and has its own impact on improving quality of intrapartum care and birth outcomes (Woldemichael, et al 2015:3; WHO 2016). In this study, partograph was not used fully and properly in all health facilities by taking the 75% and 80% composite value among all items of the partograph measurement components. Maybe the reason in referral hospitals most of the delivery is managed by interns. In the beginning, those interns did not accept the advantage of the partograph and also, they did not have enough knowledge and skill how to plot the partograph and also the other healthcare professional even if they accept the advantage of the partograph fear of workload and lack of detail knowledge and skill did not practice properly (Asibong et al 2014:873; Mukisa et al.2019:1; Eshetu et al 2017:316). This finding is supported by our in-depth interview and observation most of the time they plot the partograph after completion of delivery for documentation.

Similarly, studies conducted in different places of Ethiopia showed that there was a gap in partograph use only 10.1%,25%, 23.8% of the facility has good performance in partograph

use (Yigzaw et al 2017:3; Fisha et al 2017:3; Zelellw & Tegegne 2018:6; Reproductive Health 2015: 12-30). According to WHO grading Bangladesh 1.7% (Wilunda et al 2015:1) again, another study was conducted in Bangladesh they use 98% partograph but the interpretation or plotting of the partograph is incorrect which was not charted correctly (Khan MA et al .2018:7). In a study conducted in Guana Bwera Hospital partograph utilisation was 8.3% (Masika et al 2015:41*)* in Nigeria partograph use was poor (Asibong et al 2014:877), in Cameron 32.4% (Sama et al 2017:1)

According to the WHO quality of care framework, interpersonal care during childbirth is a critical quality care issue (WHO 2015). Both the provision of care and the experience of care have equal determinants of quality of care (Care 2015:3). For example, birth companions can improve experiences of women during labour and delivery; this is articulated in a statement by WHO (2016:52) in Quality statement 6.2 of the WHO standards for improving quality of maternal and newborn care in health facilities. It states that every woman should receive support to encourage her to adopt the position of her choice during childbirth (WHO 2015). But the implementation of the interpersonal aspect of evidence-based obstetric care in this study was poor. Such as almost all hospital lacked a respectful and polite manner of care to both the women and her family members, preferable delivery position, encourage the women to ask a question and no facility allowed the women to have her preference accompany at labour room,

This finding is congruent with other study conducted in Ethiopia (Getahun et al 2020:1; Abdella et al 2019:47). The qualitative result also corroborates this finding that majority of participants including health care professional described that no interpersonal care at all. No emotional support from health care professional, did not introduce themselves to respondents and periodic updates of labor progress were not given to respondents, did not explain what was being done to them and did not obtain their consent or permission before any procedure, did not respect, and permitted their request to get accompany to facilitate their labour and delivery processes. Some hospitals stamped notes on the labour ward stating, “don’t enter in the labor word except the staff members”. Even if they understand the advantage of companionship for women during childbirth the healthcare professional did not practice/accept accompanies.

Health care professionals who participated in the in-depth interview described the reason why they did not practicing/accepting accompanies is that, the healthcare professional did not feel comfortable to manage the labor with the accompanies of the laboring mother because of fear of litigation when performing misconduct in front of the accompanies since they do not have confidence by their skills, expected no cooperation of women with healthcare professional during labour and delivery processes in the presence of companion and they feared interferences with clinical decisions, fear of cross-infection and also if family members are allowed to enter in the labour ward, for each labouring mother the lobar room becomes overcrowded and privacy will not be maintained (Afulani et al 2018:21; Getachew et al 2018:4; Kabakian-Khasholian and Portela 2017:10).

In this study, women were greeted on arrival in a socially acceptable manner only in 2(25%) of the hospitals which were incomparable to reports to other studies in southern Ethiopia Arba Minch District (Dewana et al 2017:34). The possible reason for this discrepancy may be studied in a setting such as our study in hospital including referral and teaching hospital since there is high caseload and yet competent students may lead to increase the workload for staff and there is no experience to give friendly care and also our study lower than Malawi (Sethi et al. 2017:1). This discrepancy may be because of in our country there is inadequate training during their pre-service practice since our curriculum focuses on technical aspects of care rather than humanistic care.

According to WHO Quality statement 5.1, all women and newborns should have privacy around the time of labour and childbirth, and their confidentiality is respected (WHO 2016:48). But in our study in adequate attention given to privacy as reported that only three out of eight (37.5%) hospitals practiced privacy during labour and delivery examination. this finding is very low congruent with study conducted in Ethiopia and Africa (Sheferaw et al 2017:7, Asefa and Bekele 2015:6, Sethi et al 2017:1) and Moreover, different systematic review studies showed that there is a lack of privacy during labour and delivery care in the facilities and this is one of the reasons mothers hesitated to come for a facility for birth (Wilson-Mitchell et al 2018:6; Shah et al 2018:10; Mahato et al 2017:39). This indicates that healthcare professionals are reluctant for the humanistic approach of care in addition to our facility's physical structure which may impede their ability to offer more individualised care. On the contrary, our culture is conservative as they give value to privacy. The qualitative result also corroborates this finding that almost all mothers who participated in the in-depth

interview described that had no assuring privacy. Mothers perceived that the reason healthcare professionals did not allow a company or any other person except staff by putting guards at the gate of the labour ward was for protecting their privacy. But they are perplexed that they are examined in open rooms without screens. This finding is supported by Bohren (et al 2014:5), Asefa (et al 2018:4) and Vedam (et al. 2019:8).

> "…assuring privacy is unthinkable by healthcare professional... "

- **Immediate newborn care**

Measured against WHO quality standards, the essential newborn care quality was poor in this study. Since by using a clinical observation, we found that only 3 (37.5%) of the facilities give the quality of immediate newborn care. This finding is lower than other studies done in India 51% (Sharma et al 2017:99). This discrepancy may be this study setting was public hospital but in India it was conducted in a private hospital. The main objective of a private hospital is business-centered rather than serving a community. So, they fulfilled the material to increase client fellow better than public hospital. But better than another study in Gahan and Malawi (Vessel et al 2013:6, Kawaza et al 2020:13). When we see some components of care, in this study, 37.5% of the hospital dried the baby with a clean towel and changed wet towel for a clean dry one. On the contrary, a study conducted in Kenya, Afghanistan and six sub-Saharan African countries, 57%, 87.9% and 80% of the facility dried the baby with clean towel and changed the wet towel by dried clean towel (Shikuku et al 2017:6; Atiqzaiet al 2019:1; Graft-Johnson et al 2017:1) respectively. Skin-to-skin contact was poor in this study, only 2(25%) of the health facilities put the babies on the mother's abdomen for skin-to-skin contact to prevent heat loss and to encourage breastfeeding after delivery. On the contrary, other studies in Iraq 52% (Safari et al.2018:5) and India in community health centre 97% (Yadav S et al 2018:3481) showed better practice. The possible reason for this discrepancy may be the healthcare professionals' attitude, even if they know the advantage of skin to skin contact through capacity building training, most of the healthcare professionals did not bring behavioral change to adhere to the standards.

The World Health Organization (WHO) and United Nations Children's Fund (UNICEF) recommended that all babies should begin breastfeeding immediately within the first hour of birth (WHO 2018:7). But, in this study practicing 5 (62.5%) of the health facilities similar

to another study in Nepal 65.5% (Sanjel et al. 2018:389) and higher than other study conducted in Nigeria 34.7 % (Berde et al 2016:5), Swaziland 56.2%, Iraq 46% (Safari et al 2018:4).and WHO global survey 57.6% (Takahashi et al 2017:1), but lower than other study conducted in Malawi 90% (Leslie et a 2016:9),Sudan 87.2% (Hassan et al 2018:3), and Kenya 76% (Diamond-Smith et al.2016:6). In this study, Vitamin K and TTC eye ointment was a good practice in 6(75%) and 7(87.5%) of the health facilities administered for the newborn baby respectively. This figure was higher than the National and Amhara regional reports vitamin k 41%, 31.6%, and TTC eye ointment 34%, 24% (EPHI&ICF 2016:1 57) respectively. In contrast, different studies in Africa such as Kenya over 80 % of all facilities, Namibia 60-80% of the facility (Diamond-Smith et al.2016:6), in Malawi vitamin K injections were administered 8.8% (Leslie et al 2016:9) and another study in Ethiopia tetracycline eye ointment and vitamin K were offered in 46.9% of the health facilities (Fisseha et al 2017:3).

- **Immediate postnatal care**

In our study, the overall immediate postnatal care for the women and their newborns before discharge from the hospital were poor, only 1 out of 8 hospitals (12.5%) gave quality essential postnatal care. This finding was consistent with the 2016 EDHS national reports 17% and 18% Amhara regional reports (EPHI & ICF 2016:23) and also other study conducted in Nepal 13.5% (Adhikari et al 2016:17) and a study in Swaziland reported that quality of immediate PNC was much compromised (Dlamini et al 2017:2). But lower than other study done in Sri Lanka 90% and Wolaita Zone southern Ethiopia 34.9% (Wickramasinghe et al 2019:1; Facha et al 2017:291*).* Moreover, there was a significant difference among the type of hospitals, the above quality services performed in primary hospitals. Therefore, primary hospitals outperformed general and referral hospitals at birth which were an immediate newborn and postnatal care. This finding implies that as the hospital level increases, the service quality is compromised may be owing to the case load being different in number and cases.

According to WHO postnatal guideline recommendation, all postpartum women should have a regular assessment for vaginal bleeding, uterine tone, temperature, and pulse rate routinely during the first 24 hours (WHO 2013:25; EDHS 2016:140) since all mothers who delivered are at risk for developing a complication like postpartum hemorrhage (WHO 2013:25). In our study, 87.5% of the hospitals checked uterine contraction higher than other

study conducted in Tigray region primary hospitals 45.5% (Berhe et al 2017:14), in Malawi 48% (Chimtembo et al 2013:346). This difference could be attributed to the different study setting. Since our study included general and referral hospitals, the healthcare professionals may have more experience and alert to check the uterus since most of our study hospitals are managed referral cases. Moreover, in most of the time in our situation hemorrhage is the major obstetric problem that needs referral (WHO 2016) and the healthcare professionals have been exposed to manage postpartum hemorrhage. Blood pressure was measured 65.5% of the hospitals while the pulse rate was checked in 2(25%) of the hospitals. These findings indicate that there is poor immediate postpartum care because of incomplete care (did not adhere and provide service according to the standards). this finding is congruent with studies conducted in Switzerland 26.6% and Malawi 63% of the institutions did not measure vital sign at all (Dlamini et al 2017:2; Chimtembo et al 2013:346) respectively.

In this study, only 65.5% of the institution assisted the woman while breastfeeding. But this figure is high when compared to Ethiopia Amhara region EDHS 2016 report 35.1% was performed (EPHI & ICF2016:156). This discrepancy may be done only in a hospital whereas the EDHS report includes a health centre. Most of the time mothers managed in the hospitals are referral cases with obstetric complications and they need and request assistance for breastfeeding.

- . **Respectful maternity care (a non-clinical aspect of care)**

Non-clinical aspects of labour and childbirth cares are essential components of labour and delivery care that should complement necessary clinical interventions to optimise the quality of care provided to the woman and her family (WHO 2018:17). In this study, respectful maternity care was very poor, only one hospital among eight (12.5%) hospitals practices respectful maternity care according to the MCHIP quality of care check list (Reis et al 2012: 4-14) and also when compared to other study conducted in Kenya 66 % (Sheferaw et al 2017:6); this finding is very low.

According to the components of respectful maternity care (CRC), some of the respectful care interventions were not implemented in all hospitals, such as answering questions raised by the women and her accompany, allowed her preferable accompany in the delivery room and ask the preferable position for delivery were not performed at all. The qualitative result corroborates this finding that majority of mothers who participated in the in-depth interview

explained that those healthcare providers were reluctant to respond to mother request service. the healthcare professionals are not giving proper care even while consulting them instead of responding to offensive words and lying to us. This condition creates disappointments for mothers and caretakers because of the healthcare professional's reluctance and ignorance to respond to their consultation services.

WHO Quality statement 6.1 and 6.2 for improving quality of maternal and newborn care in health facilities stipulates that every woman should receive support to encourage her to adopt the position of her choice during childbirth and having a companion of choice during labour and childbirth is important for the quality of care (WHO 2016:1). The emotional, psychological, and practical support and advice for the mother are crucial (Bangal et al 2018:117; Afulani et al 2018:19-22). There were other common limitations of respectful maternity care. Women were greeted on arrival and explained the procedure before performed were12.5%.and 25% of the health facilities respectively. When compared to other studies conducted in Africa; this figure was very low. A study conducted in Malawi, Kenya, Tanzania, and Arbaminich in Ethiopia found that healthcare professionals greet the women during admission was 86.1%, 77%, 96.3%, and 78.5% respectively and also explained the procedure before performed were Kenya 65% and Tanzania70.7% (Sethi et a 2017:1; Shiferaw et al.2017:7; Dynes et al 2018:8; Dewana et al 2017:3). This difference happened because our study included teaching hospitals and referral hospitals which were very crowded in client fellow, whereas other studies included health centers which are relatively in stable condition. In addition to this, especially in teaching hospitals, the labour and delivery units were managed by students who are not experienced in humanistic approach care, and their objective is learning not giving care to the mother. So, they did not think for the safety and dignity of the mother.

6.3.2.1 Factors associated with process quality of delivery services

Our bivariate and multivariate logistic regression analysis confirmed that in our study quality delivery care services had an association with the type of hospitals and characteristics of the healthcare professionals. Such referral hospitals are less likely to give quality service than primary and general hospitals. The possible reason is that referral hospitals in this study are teaching hospitals and most of the time in teaching hospitals, labor and delivery are managed by intern students without being coached by their instructors and midwives. The qualitative

result corroborates this finding that majority of the in-depth interview respondents described that labor is managed by intern students.

"…Teaching hospital gives a full mandate for students to manage delivery without assistance…"

Furthermore, in the referral hospitals, most of the time, critical cases are also managed together with normal cases which bring overcrowding in the hospital. This situation creates an insufficiency of materials and supplies in the institutions. This entire situation affects the quality of care in referral hospitals as supported by our in-depth interview and other study done in one of the present study areas Gonder (Gashaye et al 2019:10). Even though there are studies that showed the quality of the service based on the hospital standards such as a study conducted in Kenya national/provincial hospital gave higher rates of quality care than district /sub-district hospital (Owili et al 2017:8). The possible reason for this discrepancy may be that our referral hospital is a teaching hospital, and this might not be the same in other countries and also even if it's a teaching hospital the students are guided by instructors.

Healthcare professionals' working experience has a significant association with the quality of delivery care services; we found that healthcare professionals who have five and more than five years of working experience gave high-quality care than those who have less than two-year experiences. In a similar study conducted in India, qualified personnel were significantly better than healthcare professionals who may not be adequately skilled personnel (Sharma et al 2015:425l). When the number of experiences increases their competence would be improved according to skill learning, skill proficiency occurs with repeated practice over time (Hockemeyer et al 2003:1443). The qualitative result also Corroborates this findings some of the healthcare provider who participated in the in-depth interview described that lack of experience found to be a barrier for provision of quality delivery care services. Some healthcare professionals lack confidence in their skill to give independent childbirth delivery service.

6.3.3 Outcome (satisfaction) at the institution level

The output quality of institutional delivery services was assessed based on maternal satisfaction and utilisation of CEmONC service. Output quality of hospital care service was

associated with patient satisfaction on CEmONC services. Comprehensive emergency obstetric maternal and childcare is a care that averts a leading cause of maternal death. So, if the women's life is saved from this problem means she is satisfied by the hospital's services. In this study, only 25% of the hospitals scored a good output quality of delivery services. This is low and below the standard similar to another study conducted in Tigray region, only 32.5% of the hospital rated good output quality (Fishea et al 2017:4). Even if, the proportion of output quality of the facility in the Amhara region and Tigray region is almost the same, there is a gap between the two studies in time and situation. Nowadays the Ethiopian government has started implementing its Health Sector Transformation Plan to improving the quality of healthcare services into high-quality person-centred health service provision by starting provision of free delivery services and capacity building to improve maternal health service (FMOH 2016:1; Tadele et al 2017:8). This indicated that health facility in the study area might not fulfill the necessary input and process quality delivery service.

According to participants' responses, majority of the hospitals gave satisfied service on the cost of the service, access to maternity bed and recommending the facility for others, such as all hospitals gave satisfied free delivery service, 7 (87.5%) of the hospitals gave satisfied service towards access to the bed and willingness to recommend the facility for others. On the other hand, most of the hospitals lacked satisfactory services in three items; namely healthcare professionals introduce their name to clients during labor and delivery service, counseling service before the women are discharged from the hospital, and accessing toilet, shower, hand washing material in the labor and delivery ward. Only 37.5% of the hospitals gave satisfying counseling service about breastfeeding, immunization, family planning, danger signs, and hygiene before being discharged from the hospital.

6.3.4 Overall interpretation of quality delivery services

The quality of maternity care is critical in improving the health and survival of both mothers and their newborns. Measuring quality of care is challenging (Owili et al 2017:15; Hanefeld et al 2017:368) because of the multidimensional in nature that includes appropriate use of effective clinical, non-clinical intervention and organizational structure (Aghamolaei et al 2014:1).

Our study assessed the overall quality of delivery services starting from the admission of the first stage of labour, delivery and up to the immediate postpartum care by using the Donabedian model of quality care framework in organizing the three concepts such as input, process, and outcome quality of delivery care services (Berwick et al 2016:240). Since these three components remain central to measure and improving quality service (Berwicket al 2016:240), which are interlinked to each other, if one component is substandard, the overall quality is affected (Fisseha et al 2017:4). The satisfaction of women in maternity care was interlinked to women's experience of delivery care, for example, a lack of adequate supplies or lack of skilled healthcare professional's leads to poor satisfaction. The qualitative results also corroborates this finding that majority of the participants perceived that without fulfilling all the three dimensions of the quality domain they did not get quality delivery service since one component is a prerequisite for the other, where structure encompasses the availability of physical structure creates a conducive environment for quality care services.

In our study, input quality result was better than other quality domains and that was similar to another study conducted in the Tigray region (Fisseha et al 2017:4). Structural/input improvements may not improve maternal satisfaction since measurement of process of care is important or dominant to bring satisfaction (Sharma et al 2017:39). This finding supported by qualitative results that interpersonal care affects their preference of place delivery. Therefore, to assess the quality of institutional childbirth services, measuring all three quality domains is important. Accordingly, this study showed that the overall quality of delivery service was poor as compared to the national guideline standards of intrapartum, postpartum and newborn care (EDHS 2015, FMOH 2013; WHO 2016).

There is apparent variation across the three quality domains in each hospital. Among the three quality domains, the process domain is most affected. Only 2(25%) hospitals have fulfilled the process domain of quality, which is lower than the input quality result. Since the process domain of quality is influenced by both availability of hospital input /structure and provider competency also this difference may be the complex nature of the healthcare practice, the critical and painful period for the mother needs more support from the healthcare professionals. On top of this, the existence of many participants with different interests in the labour and delivery room such as students who manage labour without having full competence for learning also creates another complexity. Moreover, the process domain has two components: clinical and non-clinical parts. All these circumstances bring poor process quality of delivery service (Mosadeghrad 2014:210). This finding supported by qualitative

study findings, majority participates described that there is poor interpersonal care (which are no compassionate care, emotional support, information, and counselling care). When compared to input quality domain. But this finding was similar to the output quality domain. This indicates that process of care dominated the determinants of maternal satisfaction particularly interpersonal behaviour was the most widely reported determinate of maternal satisfaction (Srivastava et al 2015:1; Jha et al 2017:1). Since process quality is measured by provider competencies, both clinical and nonclinical components of skill which are interpersonal relationship, emotional support, and treatment with respect and privacy are essential to ensure the satisfaction of women with maternity care (Tuncalp et al 2915:1046; Srivastava et al 2015:1; Kebede et al 2020:1; Babure et al 2020:1).

In this study, the overall quality childbirth delivery care is poor as only 1 (12.5%) out of eight hospitals rated good quality of delivery service in all three quality components. These findings are similar to other studies conducted in the Tigray region in which only 2(6.25%) out of 32 health facilities and Kenya 17%, were rated overall quality delivery services (Fisseha et al.2017:1; Sharma et al 2017:2) respectively but lower than other with such studies conducted in India 35.7% and Arbaminch 54.06% (Sharma et al 2015:424; Dewana et al 2016:4). The reason why this study is lower than other studies is that our study used only public hospitals including teaching hospitals whereas a study conducted in India includes private facilities, and Arba Minch does not includes teaching hospitals. In a private hospital, its business-oriented overall care is better than public particularly non-clinical/ human components of care, and in private facilities, the number of deliveries is minimal which is not crowded to give quality service in accordance with the required standard when compared to public facilities. Also, this study was included in teaching hospitals as most of the labour is managed by students, as we have understood students are not experienced and competent enough to give quality delivery services but not in private facilities.

There was a greater variation for the provision of quality of care within the health facility. This study included referral, general and primary hospitals. Among these primary hospitals have relatively better performance than other types of hospitals in all three quality domains, which is similar to India (Jha et al 2017:12), Pakistan (Aghaet al 2019:1), Eritrea(Kifle et al 2017:5), and Ethiopia (Tesfaye et al 2016:5). The degree of quality decreases as the level of hospitals rises, for numerous possible causes. As the level of hospitals rises, difficult cases such as obstetric complicated cases are referred and handled there; a higher rate of service use is

anticipated. Moreover, the desire of mothers for quality delivery services increases as the level of hospitals increases because in higher hospitals there were more skilled professionals. There is strong customer flow in higher hospitals but over client fellow brings poor follow-up of the mothers based on the standards. Therefore, improving access to institutional delivery service does not always guarantee access to quality care service (Owil et al 2017:2; Torkula, TT.2020:1; Hu & Zhang 2015: e737). In a study conducted in China primary healthcare provide better quality care than secondary and tertiary healthcare facilities (Hu et al 2016:1). Moreover, this study included both referral and general hospitals are both teaching hospitals, being a teaching hospital by itself could be contributed to poor quality services. There are many students who made the service difficult to access enough infrastructures, adhere to the standards when managing labour and delivery because the room is crowded with number of students to maintain privacy, infection prevention (the room is not well ventilated) and provide counseling. The above problem is happened even though teaching hospitals should give standardised services to be a model and share more skill for students

6.3.5 Output (satisfaction) at maternal level

Maternal satisfaction is an important outcome measure for assessing the quality of care according to the Donabedian model and the provision and experience of care model (AlAbri et al 2014:1). It is important for designing the strategies for quality improvement for the organisation. In this study, a total 793 of mothers who delivered in the selected eight government hospitals participated to assess the level of maternal satisfaction towards delivery services. in this study 38.3% with 95% CI :(34.8%-41.7%) as per the 21 Likert scale measurements was satisfied. This finding was very low as compared to other studies which had been conducted in sub-Saharan African countries such as in Kenya which is 54.5%

(Gitobu et al 2018:4), Egypt 78.5% (Sayed et al 2018:2547), India 68.7% (Jha et al 2017:1) and also in another region of Ethiopia maternal satisfaction of delivery service was 81.7%, 67.9%, 80.7%, 88% and 79.1%, respectively (Bitew et al 2015 :1; Darebo et al 2016:19;1 Amdemichael, et al 2014:1; Asres 2018:147; Tesfaye et al 2018:1).

This variation might be because of different study settings. Our study sating is only governmental hospital whereas other studies included health centers and private health facilities. Therefore, most of the government hospitals especially referral hospitals are overloaded and struggling to give quality service in contrast to private health institutions and health centers. Most of the time the referral hospitals managed very critical referral cases; so, they give focus on life-threatening complications to save the life of the mother rather than focusing on caring which brings maternal satisfaction. Moreover, this study included teaching hospitals where most of the delivery is managed by students to learn or practice on mothers. This situation may contribute to the lower level of maternal satisfaction in the hospitals. This finding is greater than in Addis Ababa Ethiopia 19% (Demas et al 2017:1). This difference might be owing to maternal expectation since Addis Ababa is the capital city of Ethiopia. Therefore, the mother more civilised and most the user is urban resident than our study. But it is comparable to a study conducted in Gondar which was 31.3 % (Gashaye et al 2019:1) in Nepal, it was 33% (Dhital et al 2015:2), and Japan 38.6 % (Khammany *et al.* 2015:74). The similarity of this finding might be the same study setting and level of quality health services. The qualitative study corroborates this finding that majority in-depth interview participates described that over crowdedness of the hospitals influences quality delivery services. Client flow in the government hospital is very high because mothers come to the hospital for delivery service out of their catchment area, in addition to referral cases expecting to get better services than health center. But health professionals in keeping patients' privacy, and treating patients were found to be worse in the specialised hospitals.

This study identified components of good satisfaction and poor satisfaction components. Good satisfaction components in this study were the triage system, accessing the bed on time, drug availability, and free payment of the service. These findings are consistent with a study conducted in Nepal in which 82.6% were satisfied with providing of necessary medicines and supplies, 92.1% were satisfied with the free of cost service (Panth et al 2018:7). These findings also resonate with a systematic review of literature from developing countries in Bangladesh women satisfied with the accessibility of bed (Srivastava et al

2015:5), Ghana 89.4% got prescribed drugs from the respective hospital's pharmacy (Abdallah 2018:53).

A study conducted in some African countries such as in Kenya found that 54% of the mothers were satisfied with the free delivery service policy (Gitobu et al 2018:4), in Nepal free delivery service was 46% and 39.3% (Paudel et al 2015:4; Panth et al 2018:5-7), and Bharatpur Hospital in Nepal only 65.2% of mother satisfied with availability of bed (Sapkota et al 2018:6). May be this difference is because Ethiopia has implemented a free payment policy for maternal health services to increase skilled birth attendance and decrease maternal mortality (MIOHE 2015:15; Memirie et al 2016:5) even if the implementation time is aligned within a specific regional context. For example, in the Amhara region, the actual implementation started in 2014. This finding supported by qualitative study findings majority of in-depth interview participated described that there is free of charge service for all delivery services. They contribute to the level of maternal satisfaction; one of the systems of increasing health-seeking behaviour of the mother is the free delivery service police of the government.

In another hand, in terms of institutional factors, mothers poorly scoring in the cleanliness of the delivery environment 68.3%. This finding is in line with a study conducted in Japan (Khammany et al 2015:73) but lower than other study conducted in Iran which found that 94% and 82% in Nepal respectively, of mothers were satisfied with the cleanliness of the delivery room (Changee et al 2015:398 & Sapkota et al 2018:6).

Regarding statements related to the interpersonal aspect of care, mothers were satisfied with the prompt examination and treated with dignity and respect. In this study, 89.9% and 81.5% of mothers were satisfied with the prompt and respect for her dignity services during childbirth respectively. Similar to other studies conducted in Nepal found 90.4% and 90.5% satisfaction rate with prompt and respect the dignity services (Panth et al 2018:7) and different studies in Ethiopia like Gomgofa (Tesfaye 2016:4) and welita (Temamo et al 2018:7). In contrast, privacy during delivery services, getting permission for accompanies and proper introduction of the healthcare professional that gave her services during delivery was poor score of satisfaction. As supported by qualitative findings. The main causes of mother discomfort by delivery service were lack of privacy, permission for accompanies and

lack of social accepting way of introduction of the health provider while giving the service for mother.

In this study, only 52.1% of mothers were satisfied with assuring privacy during delivery services. These findings corroborate those of other studies conducted in Kenya 39.6% (Gitobuet al 2018:5), Egypt 42.75 % (Sayed et al 2018:2549), Ghana 66% (Abdallah 2018:53) and lower than another study, done in southwest Ethiopia 81.7% (Lakew et al 2018:1), 73.6% (Darebo et al 2016:21). Even if privacy is one of the key supportive intervention for maternal care service as different guideline stated (WHO 2016:3), the study showed in Bangladesh and India that assuring of privacy via a separate room or screen for delivery was a significant determinant of satisfaction with maternal health services (Srivastava et al 2015:6). In our study, privacy is poor and especially in our country privacy in reproductive health service is a culturally sensitive practice and other studies showed that lack of privacy is one of the barriers to quality delivery services (Bohren et al 2014:4).

The study has shown that labouring mothers accompanied by family members have a positive experience with delivery care (Sioma-Markowska et al 2015:21). In this study, getting permission for accompanies from family members during labour and delivery was poor only 22.3% and the rest 77.7% were not satisfied by the institution's regulations of not willing to allow a companion during delivery. This finding was congruent with study conducted in Kenya among the most cause of dissatisfaction was, not allowing birth companions in the facilities (Okumu et al 2018:13).and corroborates by qualitative findings. "…Since from my experience I gave birth in the presence of my family, I asked the healthcare professional to allow my family members, but she did not allow…"

"... It is energy for me and shares my pain..."

A study conducted in south-central Ethiopia stated that not having a birth companion was one of the reasons for not delivering in a health facility (Roro et al 2014:1) and also Addis Ababa referral hospital reported that poor satisfaction with companion's treatment affected treatment outcomes (Melees et al 2014:3). Moreover, a study conducted in Jordan found that lack of continuity of care and social support had increased the pain experienced by laboring mothers and increased their need for pharmacological anti-pain during labour and delivery (Mohammad et al 2014:37). Since the childbirth process is a very painful and stressful condition in which intrapartum mothers need family members to share their pain and support which was very important to fill the gaps of healthcare professionals with their

companions. However, this finding is inconsistent with other studies conducted in Ethiopia 78% of mothers satisfied with companionship during labour and delivery (Asres et al 2018: 152). Maybe this variation occurred owing to the study settings which included general and referral hospitals. However, the other study was conducted in primary hospitals only. Most of the time primary hospitals function better than referral hospitals in terms of client load to permit the accompanies during labour and delivery and this study used both referral and general hospitals which were teaching hospitals. Teaching hospitals tend to be very congested by many trainees/students to permit accompanies in the delivery room. Women have the right to come with accompanies which is important to strengthen the women's capacity for delivery according to WHO quality standard number 6.1 recommendation.

The healthcare professional introduces him/herself in a socially accepted manner to them was the least poor score of satisfaction. Only 12.1% were satisfied with a proper introduction from a healthcare professional. But there is evidence that the healthcare professional introduced him/herself in a socially accepted manner to the mother has a significant impact on maternal satisfaction and to design a friendly approach to enhance communication (Melees et al 2014:3). Moreover, exchanging greetings encourage a mother and other labouring mothers to come to the hospital for delivery service in the future.

Studies showed that sharing information with women about their condition and answering what she asked is a critical determinant of satisfaction with maternal care services (Srivastava et al, 2015:7). Since getting information is a good tool to reassure mothers and family members, making mothers understand their illness and intervention to build positive interaction with the healthcare professional while giving care. Also, a study conducted in Athens reported that mothers increased their satisfaction towards delivery service when the healthcare professional proved information about the type of birth (Sachsanidis et al 2018:10). In our study, the informative aspect of care was poor with only slightly over two-thirds (66.6%) of mothers were satisfied by getting information from a healthcare professional, this finding supported by different developed and developing countries. In a study conducted in Japan information on newborn indicate that 55.7% were satisfied with obtaining information from a health professional (Khammany et al 2015; 74), in Egypt only 61.25% of mothers were satisfied with the medical team that had explained the plan for treatment (Sayed et al 2018:1*)*, 20.5% in Jordan (Mohammad et al 2014:1), and also in Ethiopia Gondar 40.07% (Gashaye et al 2019:4) and Bahirdar 67.5 % (Mekonnen et al

2015:3). However, in Wolita zone administration addressing complete information reached up to a satisfaction level of 98.2% (Temamo et al 2018:7), Mekele town 86.2% (Marama et al 2018:5*).* This difference may be characteristic of the study population and type of hospitals studied. Majority of our study participants from large teaching hospitals which was a very busy environment for different categories of students and referral cases of the maternity wards, and they give focus to life-threatening problems to save the life of the mother rather than giving attention to the need of information of the mother and family members. Moreover, often labour was managed by students for learning/practicing. Hence, they are less concerned and experienced regarding interpersonal care. The qualitative findings also supported this finding majority in-depth interview participates explained that they did not get enough information. There is no practicing proper and enough information and counselling service for the mother. In addition to this, healthcare professionals admitted it not providing adequate information and counselling service owing to the factor of fatigue because of high workload and lack of adequate time and some healthcare professionals owing to ignorance.

Despite the quality of maternal and child health services noted as poor in the health facilities, almost all (93.4%) mothers would like to recommend the hospitals for their relatives and friends. Like other studies conducted in Nepal, 94.9% (Panth et al 2018:6), Kenya from private facilities (98%) and public (97%) recommended a relative or a friend in the delivery unit in respective health facilities (Okumu & Oyugi 2018:11). The current government focuses on increasing institutional delivery services to decrease maternal death by using different mobilisation interventions (Eshete et al 2019:2). Of that intervention, accessing and strengthening facility-based maternity services by 4th level health system including health extension workers at a lower level, supporting their activity by accessing ambulance service in the health centre and using both HEWs and midwives' electronic forms (Medhanyie et al 2015:1; Medhanyie et al 2012:2 Jackson et al 2016:471) does not bring a significant improvement on maternal health improvement without quality service. Since quality care is the main factor for increasing institutional delivery services (Bohren et al 2014:1).

6.3.5.1 Factors associated with maternal satisfaction

In both bivariate and hierarchical model analysis in this study from maternal related factor which includes maternal income, education, and transport to arrive health institution and having antenatal care visit have a significant association with maternal satisfaction.

Regarding the economic status of the mother, in our study, mothers who came from a higher socio-economic status were 1.66 times more likely to be satisfied than those who were poor economic status (1.65 95% CI: 1.12,2.42). The probable reason may be the healthcare professional gave more attention to mothers who were rich and mothers who were well prepared for childbirth services. This finding supported by other studies in Lebanon (Ahmar et al 2015:596), and Egypt, (Sayed et al. 2018:4), a study was conducted in Ethiopia referral hospital higher-income clients demonstrated a higher level of satisfaction with healthcare professional's attitude and lower level of satisfaction with the hospital environment (Melese et al 2014:4). Conversely, another study in the South West of Ethiopia found that the opposite association (Lakew et al 2018:1).

Regarding maternal educational status, non-educated mothers have more satisfaction than the educated ones. The odds of satisfaction for mothers who were secondary educational level were 55% times less likely than those who were not able to read and write (45 95% CI:0.25-0.82). Educated mothers were less satisfied with delivery service may be owing to high expectations of quality service. Since educational level increases awareness of the mother towards quality delivery care service increases their expectation becomes high and not satisfied with a minimum compromise to the care. This finding was in line with a study conducted in Athens (Sachsanidis 2018:7) and mid-western Nepal who was illiterate was 2.71 times more likely satisfied than those who were literate (Panth et al 2018:8). Moreover, a different study in Ethiopia Hawass and west Gojjam hospital in Oromia zone who were never educated mother was 6.8 and 2.15 times more likely to be satisfied than those who were educational level was diploma and above respectively (Agumasie et al 2018:1; Asres et al 2018:1).

In this study, mothers who had less than four ANC visits were 38% less likely satisfied with intrapartum care than those who were recommended four ANC visits (0.62 95% CI:0.42,0,92). The findings are also similar to another study conducted in Uganda which found that a mother

who attended less than four visits were less likely to deliver in a health facility because of poor satisfaction compared to those who attended ANC at least four times (Atusiimireet al 2019:7).Another study conducted in Ethiopia stated that mothers attending the recommended ANC visits were more likely satisfied than those attending less than the recommended one (Lakew et al 2018:8; Tesfaw et al 2018: 431). And also, mothers who had ANC visit more than 4 visits were 59% less likely than those who have 4 ANC visits (0.41 95%CI: 0.21, 0.81). In line with other study conducted in Japan (Khammany et al 2015:76) that was true most of the time if a mother has more than the recommended ANC visits indicates that a mother needs specialised care since it indicates there are additional health problems. So, these women expect more quality than mothers who have normal visit service because of their status of health (Khammany et al 2015:76).

This study revealed that those mothers who came to the hospital for delivery service by taxi/bajaj are less likely satisfied than those who came by ambulance (0.56, 95% CI: 0.34, 0.92). In line with other studies conducted in Abrade Sweden Memorial Primary Hospital, in West Gojjam, Ethiopia (Asres et al 2018:8). This finding may be related to the cost of the services. Also, transportation problem was the main barrier for maternal health service particularly for institutional delivery service in developing country as the study showed in Ghana (Atuoye et al.2015:8), Nigeria and Ethiopia (Yaya et al 2018:8).

Having good process quality care service was the most predicted value for maternal satisfaction. According to the Donabedian model, process quality of health institution service refers to the professional competence of healthcare professionals and effective communication with clients (Donabedian 2005; Yigzaw et al 2017:2) through adherence to standard care during intrapartum and immediate postpartum periods (WHO 2013). Practicing standard care during childbirth is very important for maternal satisfaction since processes contain all acts of healthcare delivery services. On the other hand, the quality domain was interrelated; women should be satisfied not only with the birth experience but also with the received health services and the care provided by the healthcare professionals (Sachsanidis 2018:8). Since obstetric and neonatal healthcare is multidimensional in nature (Wilhelm et al 2019:1). failures in the processes of care can result in bad obstetric and neonatal outcomes (Bishopet al 2019: e513; Wilhelm et al 2019:5), and also care of poor quality often leads to low demand for future maternal health services as five African countries analysis of national health system surveys indicated that low delivery volume was consistently associated with

poor quality care (Elmusharaf et al.2015:5-6; Kruket al 2016: e845). Therefore, without good respectful maternal care and adherence to standard delivery care services do not bring maternal satisfaction. Based on this, this study finding health institutions that have good process quality was 7.9 times (7.90 95% CI: 4.18, 14.93) more likely satisfied than counterparts with delivery services.

CHAPTER 7

PHASE II DEVELOPMENT OF GUIDELINE

GUIDELINES FOR THE PROVISION OF CLIENT-CENTERED QUALITY DELIVERY CARE IN ETHIOPIAN PUBLIC HEALTH FACILITIES

7.1 Introduction

The client-centred guideline is a document that contains important recommendations to provide information about what policymakers, healthcare providers, or the beneficiary should do (WHO2010:4) to assist the practitioner and patients about appropriate healthcare for specific healthcare conditions (Graham et al 2005:68). Therefore, this guideline is very important since it is prepared systematically from different ideas and experiences on the data collected from beneficiaries, agents that provide the service/experts and researcher insights

(Graham et al 2005:68). The guideline has potential benefits to improve quality care and patient outcome since it is developed by putting people and their families at the centre (Moody et al 2018; 282). However, there is a gap to implement client-centred activities to improve quality care. Shemelis and Gurmesa (2019:101) reported that even if the hospital is convinced that the patients' active involvement is helpful and starting to practice, there are still some gaps to implement client centre care. Moreover, Berhane and Enquselassie (2016:50) report showed that healthcare professionals did not listen to patients' voices. It rejected their complaints and took its own actions. In general, the facility experience of care on childbirth care has been insignificant in the provision of quality care since the service is given without considering the involvement of beneficiary in decision-making (FMOH2016:8). But, now a day's client-centred care has gained remarkable recognition globally as an important healthcare delivery strategy that helps to improve the safety and quality of care (Avortri 2015:333; Moody et al 2018:282).

On top of this, Ethiopia is trying to improve childbirth service by giving due emphasis to quality care service based on client-centred care strategy. For example, the Ministry of Health in Ethiopia launched National Healthcare Quality Strategy in March 2016 which prioritises interventions for improvement in the quality of care. The goal is to improve the outcomes of clinical care, patient safety, and patient-centeredness while increasing access and equity for all segments of the Ethiopian population by 2020 (FMH 2016:5) about dignity and respect in maternity care (FMH 2016:5). Even though the Ethiopian Ministry of Health gives priority attention to quality service until now, there is no separate developed guideline for childbirth /intrapartum care in Ethiopia as a guide for healthcare professionals. To fill this gap, Ethiopia needs guidelines to help health workers and other concerned experts to implement standard care and client centered care into practice as acting as a reference.

Based on this, this chapter presents the guideline for the provision of client-centered quality childbirth care in Ethiopian public health facilities. Besides, the final goal of this thesis is to develop client-centred quality childbirth guidelines since client-centred delivery practice is the best approach for improving quality childbirth delivery care (Avortri 2015:240). Therefore, the development of client-centred quality delivery service guideline will support the healthcare professionals to focus the provision of care that focuses on the expectation and need of the mother, while fulfilling/meeting the mother expectation and need for the technical and non-technical practice of delivery care. This brings the acceptability of institutional

delivery service and influences the decision to seek utilisation of institutional delivery service. Hence, it decreases maternal morbidity and mortality related to childbirth complications by improving the birth outcome. Moreover, this chapter describes the validation process of the guidelines and the dissemination plan.

7.2 Purpose of the guidelines

The purpose of developing a guideline is to offer client center care services to assist the healthcare provider, health facilities and program planners for formulate measures to improve quality and utilization of facility delivery care service in Amhara region, Ethiopia.

7.3 Objective of the guideline

The objective of this guideline is to contribute the reduction of maternal and neonatal mortality and morbidity by improving the quality of delivery care service and utilization in the facilities of Amhara region, Ethiopia.

7.4 Research question

- How its quality of delivery care service at public health facilities in north-west Ethiopia in terms of structure, process, and outcomes.
- What are the experiences of women regarding quality delivery care service in public health facilities in North-west Ethiopia
- What are the factors that influence process and maternal satisfaction dimension of quality delivery care service in public health facilities in North-west Ethiopia?
- How to develop practical guideline and its scope for the provision of client centered quality delivery care service in public health facilities in North-west Ethiopia

7.5 Process of developing guideline

The client-centred quality childbirth delivery service guideline is developed based on the major findings of this study that emerged from qualitative and quantitative study analysis, reviewed literature, the theoretical framework of the study, enthusiasm from different experts' idea, and the researcher's observation to make the service more client-centred. The conclusion of the study findings was categorised into themes under the adapted Donabedian model and activities were proposed based on each theme arising from the conclusion of the

study. Before finalizing the guideline, the draft document was commented on by senior health professional experts from Addis Ababa University Gynaecology and Obstetric Department, Debreberhan University Reproductive Health Department and Ethiopia Amhara Region Health Bureau Family Health Department to confirm the contents in line with the standards and determine its feasibility in the Ethiopian context. Concepts and frameworks were applied to provide a structure to the guideline. The guideline developed systematically by incorporating the following concepts which are the purpose, the agent, the recipient, context, dynamics, and procedures (Nangombe & Justus 2016:47). The themes that were developed based on the Donabedian quality framework was used to guide the description of procedure /intervention based on each theme. Each theme is categorised along the two quality domains (structure and process) of the Donabedian adapted framework/model. The developed conceptual framework is presented in Figure (7:1)

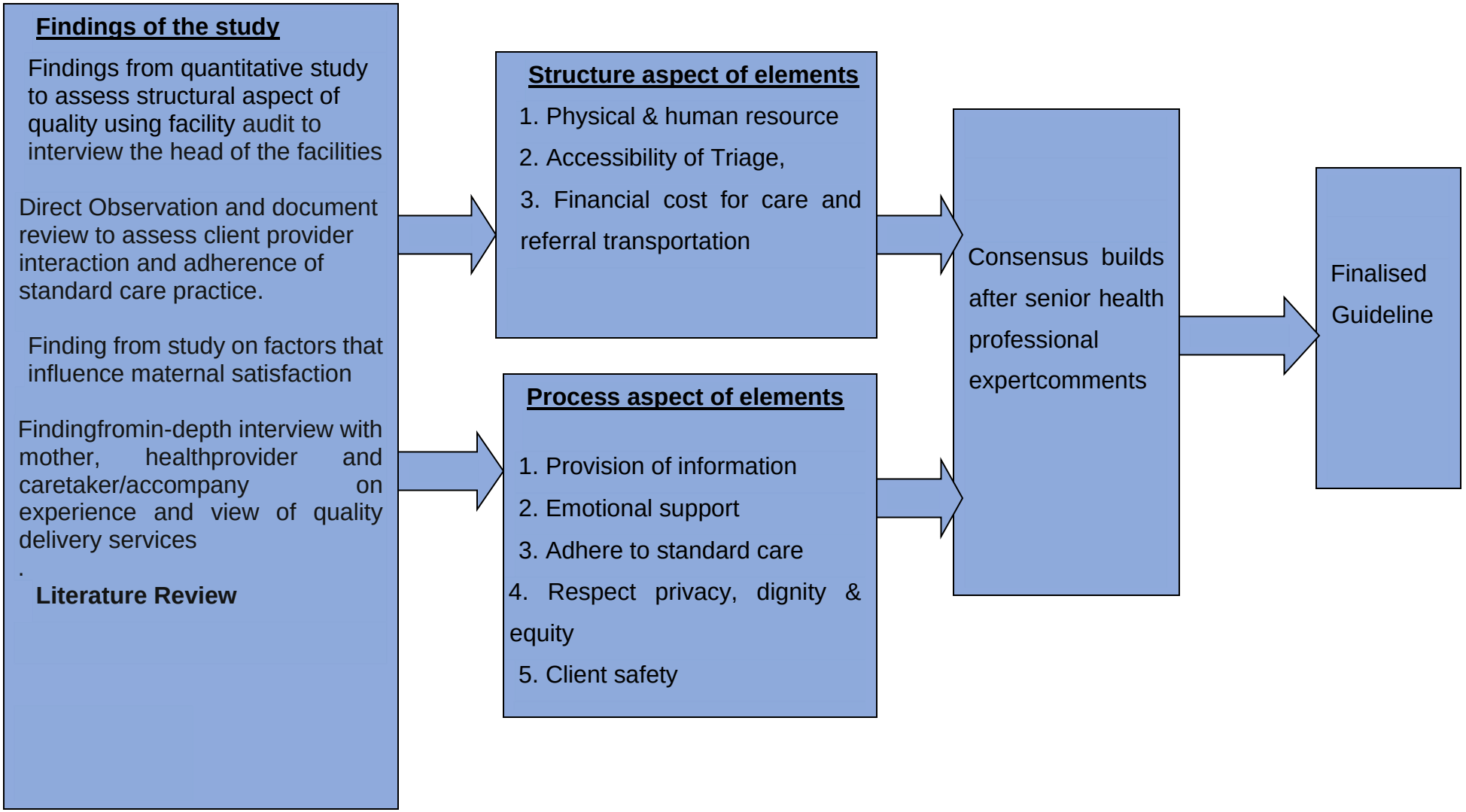

Figure 7.1 Framework for Developing Client centered childbirth guideline, North-West Ethiopia, 2020

7.6 Application of the conceptual framework to the development of the guideline

The guideline reflected on activities based on the survey list consisting of scope, purpose or terminus, the agent, recipient, framework(context), dynamics, and procedures was used as the structure for guidelines development (Nangombe & Justus 2016:47).

7.6.1 Scope of the guideline

The scope of the guidelines is to foster quality childbirth care based on client-centred care in the healthcare facilities and service delivery points in Ethiopia by guiding, planning, implementing, monitoring, and evaluating childbirth care (Avortri 2015:336). The implementers are healthcare professionals who managed mothers, hospital managers and health policymakers.

7.6.2 Purpose or terminus

The 'purpose of the guideline is to endorse the quality of childbirth care provision that creates a good experience for the mothers and their families by fulfilling their expectations and needs. The guidelines will help facility managers and healthcare professionals to provide client-centred care that is consistent with current evidence-based practices, as well as provide care that is acceptable to the mother.

7.6.3 Target audience/agent

The '**target audience/agent',** according to the survey, is someone who has knowledge, skill and responsible to perform and facilities the identified intervention while working in the health sectors (Nangombe & Justus 2016:47).

In this study, the guideline target audience or agents are the healthcare professionals who provide quality delivery services in Ethiopia. These healthcare professionals include nurses, health office, midwives, emergence obstetric surgery, obstetricians, and other paramedical staff.

7.6.4 Recipient

The '**recipient'** is the beneficiary of the developed intervention designed by the agent (Moleki 2008:29). In this study, the beneficiaries of quality childbirth delivery services are the mothers or labouring mothers who need childbirth delivery services.

7.6.5 Framework

The '**framework'** is presented as the context or environment in which activities take place (Helelo 2013: 131). This provides for living experience at the public health of 8 facilities/hospitals. This study assessed/explored the existing experience and perception of clients and their family members who accompany on public health facilities/hospitals during childbirth delivery service between the interaction of gents who are healthcare professionals and mothers.

7.6.6 Dynamics

According to the survey list, **dynamics** refer to energy sources or motivating factors for quality delivery service provision (Nangombe & Justus 2016:50). In this study, motivating factors for the agents and the recipients include the experience of human and physical resource, information system, respectful maternity care service, equity, emotional support, use of appropriate technology, coordinated care, and internationally recognised good care.

7.6.7 Procedures

The 'procedures are processes that include the techniques and protocols that guide the action to implement quality delivery service activities (Nangombe & Justus 2016:51). To achieve client-centred practical guidelines for quality delivery service provision, the techniques used for this study are the three elements of Donabedian quality model framework.

7.7 Application of the theoretical framework to the development of the guideline

Donabedian model is the most common quality care model used as a theoretical framework for this study. The model has three quality care domains that are the structure, process, and output/outcome (Donabedian1988:1147). Among these, to develop client centre guidelines, I used the two model elements, namely, structure and process. The output/the third domain used in this study is maternal satisfaction which is the reflection of the two domains of quality. Therefore, to develop the guideline, there is no need for an explanation for the theoretical

framework. Within the structure model, I used three elements that are the availability of physical and human resources, accessibility of triage, financial and referral transportation. Similarly, in the process domain, I used the following five elements; the provision of information, emotional support, adheres to standard care, respect dignity, privacy and equity, and client safety. In addition, coordinated and individualised care is constructed from our findings. These elements are linked to our research findings with recommended procedures/activities for the client centre guideline for the provision of quality delivery services in Ethiopian public health facilities.

7.7.1 Availability of physical and human resources

The physical resources in the model include general infrastructures such as adequate space, obstetric bed, water, electricity, drug supply, and equipment (FMOH 2016:41) and human resource includes the availability of health workers and non-health-supportive staffs appointed (Helelo 2013:135). This study refers to the availability of skilled healthcare professionals especially midwives, obstetricians, and emergency obstetric surgery, and from the supported staff cleaners based on client ratio and professional mixing is necessary to provide quality childbirth care.

7.7.2 Accessibility of Triage system

This system is a system in which assigned skilled healthcare professionals to exist in obstetrical triage in emergency departments for systematic maternal and fetal assessment. When a pregnant woman presents for care, the above-skilled healthcare professionals determine priority for a full evaluation to give priority treatment to those with the most critical conditions, to minimising delay, saving lives, and making the most efficient use of available resources (DePaoli 2016:3; Rubin et al 2017:1867; Abdelwahab et al 2017:160). This study suggests that the triage system should be accessible in all departments when a labouring mother needs service such as starting from the get card room, pharmacy, and laboratory departments. Anywhere, when the obstetrical patients present for care, mothers should get priority service since the nature of obstetric case is emergency.

7.7.3 Cost of care and referral transportation

Cost of care refers to mothers' income while seeking care. It includes the cost of buying medicines and other supplies necessary for delivery service. The referral system in this model is the availability of functional ambulance within the institution to give referral system to the next referral hospital without delay.

7.7.4 Provision of information

Provision of information refers to the healthcare professionals who provide clear accurate appropriate information about the care for all mothers and family members (WHO 2016:3). Mothers have the right to get information and involve in decision-making processes.

7.7.5 Emotional support

Emotional support refers to showing empathy, compassion, and genuine concern for mothers by friends, family members, and healthcare professionals during labour and delivery in the form of encouragement, reassurance, listening, and a continuous physically present at the mother's bedside to relieve stress, anxiety, and pain during labour and delivery (Avortri 2015:339; Iliadou 2012:386).

7.7.6 Adhere to standard care

This refers to established practice accepted as correct within the healthcare sectors and all healthcare professionals are held to the standard care. In this study, all healthcare professionals should adhere to standard care during labour, childbirth and the early postnatal period to achieve high-quality care such as the healthcare professionals should follow the labour with partograph, apply active management of the third stage of labour (AMSTL) and allow accompany for all labouring mother (WHO 2016:18).

7.7.7 Respect dignity, privacy, and equity

Respect dignity, privacy, and equity are overlapping ideas when clients and healthcare professionals interact during the provision of care. To treat someone with dignity is to treat them as being of worth in a way that is respectful of them as valued individuals. Dignity including respect, privacy and equity is characterised by the care with supportive relationships without undermining a person's self-respect regardless of any difference. Mothers should

receive equitable care without discrimination based on a relationship with the healthcare professionals or place of residence (Hello 2013:134; Asrese 2020:6) and ensuring privacy without exposing their body to others (Avortri 2015:339).

7.7.8 Client safety

Safety of care means mothers should not be harmed by the provision of care. This refers to mothers' perception of how many services had been given by skilled healthcare professionals, how many mothers were exposed to injury and pain which is related to the unnecessary repeated procedure performed by students during labour and delivery and lack of necessary supply and adequate space and bed.

7.7.9 Coordinated care

Coordinated care refers to how healthcare management create a conducive environment to work as a team by respecting each other to render accepted quality delivery services to clients**.**

7.7.10 Individualised care

Individualised care refers to mothers' perception that no one is responsible person to treat us. This is related to more than one healthcare professionals examine and order the management without communicating them. Mothers should get continuous care provided by the same provider (FMOH 2013:6).

7.8 Formulation of best practice of guideline to provide client-centered quality childbirth delivery service health facility

The guideline presented based on the findings of major themes that developed based on the Donabedian model quality framework related to the provision of client-centred childbirth service and the recommended activities/strategies are presented under the subheading of the identified major theme.

7.8.1 Availability of physical and human resource

For childbirth quality care to be effective the necessary physical and human resources associated with the provision of childbirth delivery care services such as hospital infrastructure, equipment and staff should be available. A good structure should promote a

good process and a good process should in turn promote good outcomes (maternal satisfaction) (Ameh et al 2017:14). To provide client-centred services that need adequate space and equipment, resources affect the condition of care such as diagnosis, treatment, the interaction between client and provider to give quality delivery service which is client- centred. In addition, an adequate number and type of human resources are required to deliver care that is addressing the need, preference and expectation of the mothers (Avortri 2015:339).

7.8.1.1 Infrastructure and its cleanness

Building facilities and their surrounding image have a significant impact on the provision of client centred quality childbirth care and its outcomes (Avortri 2015:355). Hence to give client-centred care based on the standards, a room with enough space is required. On the other hand, the characteristics of the work environment affect the quality of care directly and indirectly since attractive and supportive work environments are needed for healthcare professionals to motivate to work and to create a conducive environment that enables health workers to perform effectively to achieve high-quality health services (Wiskow et al 2010:5).

- To address adequate numbers and enough space, hospital construction should be designed and built based on the need for clinical efficiency by consulting the concerned health professional experts.
- The hospital constriction should be designed and built by considering a comfortable pathway for labouring mothers to minimise mothers' injury and suffering while shifting from one room to another room especially if the hospital maternity ward is not on the floor.
- Establish a waiting area for mothers and visitors with enough and comfortable. seat to minimise congestion of the labour ward and improve the interaction of healthcare professionals with mother and visitors.
- Ensure the availability of continuous water supply and functional drainage system at public health facilities to maintain the hospital cleanness.
- Build complete sanitary facilities at maternity ward that proportional to client load. For example, toilet with a handwashing facility and shower and maintain continuous functionality and kept clean.
- Ensure the hospital compounds have a clear compass for all departments with English and Amharic language to minimise confusion and dalliances of mothers for treatment.

7.8.1.2 Human resources

Assigning an appropriate number of human resources is one of the priority activities for improving the quality of health service Bursa (2016:5) especially midwives.

- The healthcare professionals should be allocated based on the hospital's client flow but not only type of hospitals both by type and numbers to create a conducive environment for the healthcare professionals to give care based on the standards.
- Assign enough midwives during night duty to provide the care without compromising the standards of care and to minimise the over-stretching of the healthcare professionals to meet the need and expectations of mothers.
- Support and ensure the health centres to be functional to avoid unnecessary referral to minimize the overload of the referral hospitals.
- Ensure enough cleaners are assigned in the maternity ward to maintain continuous cleanness of public health facilities.

7.8.1.3 Equipment and supply

- Diagnosis equipment and reagents should be fulfilled continuously based on the hospital standards to minimise unnecessary referral and delay of management.
- Avail equipment and supply in the public hospitals based on the hospital standards regularly.
- The hospital managers should monitor the hospital equipment and supplies availability and functionality based on the hospital standards regularly to act on time.
- Avail maintenance experts in the public health facility to maintain the functionality of the equipment.
- Equip the hospitals with an adequate number of beds to client flow to maintain mothers safely and to create a conducive environment to give quality care. Since mothers lay on the floor after delivery it is not comfortable both for mothers and healthcare professionals for the service.
- Modified the bed size of public health facilities to accommodate both the mother and baby to maintain mothers and newborn babies' safety.
- Maintain drugs and supplies at public health hospitals regular.

- Ensure the functionalities of the hospital healthcare financing strategies regularly to maintain the availability of drugs and supplies continuously in the hospital pharmacy.

7.8.2 Accessibility of Triage system

Sorting of labouring mothers into priority groups according to their cases that need emergency care and the resource available is important to deliver timely, efficiently, and safe quality care (Veit-Rubin et al 2017:1867) by minimising delay, saving lives, and making the most efficient use of available resources (FMOH 2010:8). Triage service should be accessible in all department services needed for labouring mothers and other obstetric conditions.

- The hospital managers should establish obstetric triage service with assigned skilled midwifery professionals in addition to the overall hospital triage department to minimise the third delay after the mother arrived in the hospital by giving priority to mothers who need more urgent treatment among the labouring mothers.
- The hospitals should be avail separate pharmacy with fulfilling necessary obstetric drug and supply near to labour ward with giving service for two hours.
- Ensure the hospital laboratory department to give priority service for labouring mothers.

7.8.3 Cost of care and referral transportation

Availability of free delivery service and transport for referral cases in the health facility is a key strategy for increasing the proportion of mothers who gave birth at the health institution (Hagos et al 2014:5; Yoseph et al 2020:6). On top of this, now a day the government of Ethiopia has implemented a free maternal health service and has eliminated some costs for facility-based delivery. However, mothers are still paid a high cost for drug and material used in their delivery service (Merga et al 2019:6; Gashaye et al 2019:11). This cost is upsetting the family, especially for unemployed women. (Merga et al 2019:6) and also this high cost for delivery service has arson for not utilising institutional delivery service (Yoseph et al 2020:6). So, to implement the free delivery service, this guideline recommends the following activities:

- The government should scale up the distribution of ambulance policy to hospitals.
- Drivers should be monitored to give appropriate service regular to ensure the continuum of care in the healthcare system.

- The availability of essential drugs and supplies in the hospitals should be ensured.
- There should be a mechanism to improve medicines supply chain management system in the hospital to avail drug consistently in the hospital pharmacy.
- A separate pharmacy needs to be established from the main pharmacy of the hospital that is serving only for obstetric cases with drugs and supplies that are necessary for maternity ward near for the maternity wards serving for 24 hours.
- Private pharmacy on the hospital compounds in fare payment for serving 24 hours should be established.
- Awareness creation should be done on mothers related with free service to bring money as a reserve for delivery service during ANC to buy drugs in the private pharmacy when medicines is not available in the hospital pharmacy.
- Possible means should be set how to borrow drugs and supplies from a private pharmacy for mothers unable to pay many for drugs and supplies for delivery service until processing their health insurance and replacing the money.

7.8.4 Provision of information

Providing information and counselling service for mothers by healthcare professionals is crucial for providing quality childbirth cares. Since effective communication and information can reduce unnecessary anxiety and make childbirth a positive experience for the women (WHO 2016:21) and mother need and expect clear information from the healthcare professionals (Belizán et al 2020:1). Concerning this guideline, it is designed to how to implement the provision of information and involving a mother and family members in decision-making process.

- The healthcare professionals should introduce their name and professional status.
- There should be a chance for mothers to reflect on their experiences.
- Respect mothers' right to get information and give clear information about their health condition every time during examination including the family members.
- Before performing any care/ procedure, healthcare professionals should inform mothers about the procedure and its importance and get their permission.
- Encourage mothers to ask a question about the care /procedure they are going to receive.

- Give time to understand the care and confirm whether they understand the car/procedure they are going to receive or not before performing.
- Give chance to involve or communicate with their family members.
- Assigned enough number of healthcare professionals to get enough time to communicate with mothers.
- Ensured to provide full information before mothers discharged from the hospitals.

7.8.5 Emotional Support

Labour and delivery are among the most physical and emotionally intense that generates continuous physical and emotional support (Olza et al 2018:1). Since continuous emotional support is a tool for managing unnecessary stress and anxiety and may improve a several outcomes including the health-seeking behaviours of a mother (Bohren et al 2017:3). Therefore, maternity healthcare professionals should understand the emotional aspect of childbirth to meet the emotional and psychosocial needs of labouring mothers (Olza, et al 2018:1). This guideline put some strategies on how to help mothers.

- Give compassionate and respectful care training for all maternity healthcare professionals to create insightful healthcare professionals.
- Revise the preserves training curriculum that should be more focused on the humanistic approach of training during practical attachment.
- Assigned adequate staff in both quantity and quality to create a conducive environment to give appropriate care by avoiding overload of the healthcare professionals.
- Ensure mothers are managed by competent healthcare professionals. If the hospital is teaching hospital students should be couched by their instructors or experienced midwives while managing labour and delivery.
- Healthcare professionals should allow mothers to accompany their preferred members of the family during the labour and delivery process to offer emotional, psychological, and physical support.
- Encourage mothers to communicate with healthcare professionals about their feelings and worries during the childbirth process freely by creating enabling environments.

- Assigned inexperienced healthcare professionals with experienced senior healthcare professionals for knowledge sharing how to support mothers during a stressful situation.

7.8.6 Adhere to standard care

The standard of care is a basis for what is expected and required to improve the quality of maternal and newborn care according to WHO quality standards (2016:18). The healthcare professionals need to recognise these and practice the required standard of care, this guideline proposed the following to assist women in this regard:

- On-site training about partograph for all healthcare professionals working in labour ward to be competent on the skill of partograph including physician should be given.
- To allow accompany for all labouring mothers adequate space should be prepared for healthcare professionals to practice standard care.
- Establish monitoring and evaluation strategies to follow the healthcare professional's activities to implement based on the standards.
- Ensure the facility which should be fulfilled with necessary equipment and supply to provide quality care based on the standards.
- Assigned enough number and type of healthcare professional healthcare. Professionals based on the client load to provide care based on the standards.
- All prepared guidelines should be available in the maternity ward to access for midwives and other skilled healthcare professionals who work in the labour ward.
- Ensure students assigned in the labour ward should be couched by their instructor or senior staff midwives while managing labour and delivery.
- Ensure every maternity ward corner prepared a fully equipped labour and delivery mechanism skill lab for practicing students and fresh healthcare professionals to improve their skills before going to real mother care.
- The maternity head /MCH case team should be assigned a person who monitors the Skill lab by opening 24 hours for every healthcare professional who has free time and Assists during practice act as a simulation for humanistic approach care like Communication/interpersonal interaction who can practice any skill.
- Incorporate properly using skill lab to improve their skill as an important part of provider performance evaluation.

- Senior experienced midwives/ skilled healthcare professionals assist /couch the students and fresh healthcare professionals while practicing on skill lab and mothers' care.
- Ensure all posters necessary for labour and delivery like AMSTL, Partograph APGAR score chart, and handwashing etc. should be posted in the labour ward.

7.8.7 Respect dignity, privacy, and equity

Mothers and family members who accompany the labouring mothers need politely welcoming care, respectful care of their privacy and dignity, and also equitable care through their labour and delivery process till discharge from the hospital to have mother's health-seeking behaviour of institutional delivery service in the future. The guideline recommends the following to assure these.

- Healthcare professionals should introduce their names with their profession and the type and importance of care they give before politely starting care by considering this is one part of care to improve their relationship with mothers.
- Ensure privacy throughout the care.
- Provide CRC training for all skilled healthcare professionals to give compassionate care.
- Ensure the mother gets appropriate care equally irrespective of their place of residence and case.
- Ensure the mothers get appropriate care regardless of whether they have a personal relationship with the healthcare professional or not in the facilities.
- Allow accompanies for all labouring mothers irrespective of their cases.
- The facility should ensure adequate labour and delivery space for allowed accompany during labour and delivery.
- Be conscious and give timely responses to mothers' requests by practicing empathetic and friendly behaviour for all by considering individualised care.
- Ensure that mother came from the rural area get attention and care from competent healthcare professionals equal to urban mothers instead of leave for students for practising purpose.

- The teaching hospital should circulate a programme for referral mothers to give priority care and managed by senior experts. The aim of the referral is to get further management and intervention by a senior experienced person.
- CRC training/awareness should be given to support people like guards and cleaners to minimise unethical conduct to prevent mother and family members from physical and verbal violence.
- Create accountability mechanisms for staff that violet mothers and family members.
- Recognition mechanism for role model healthcare professionals who give compassionate care by adhering quality delivery car standards should be established

7.8.8 Mothers' safety

According to WHO (2016:14) definition of quality care, the extent of healthcare service is to provide mothers the desired health outcome. To achieve this, healthcare must be safe to minimise risks and harms to service users including avoiding preventable injuries and reducing medical errors. Moreover, mothers need and expect to get safe delivery service in the facilities. To address this, the guideline proposed the following:

- The facilities should fulfill all necessary supplies in the maternity ward like linen, blanket, appropriate size bed for mother with a baby, and other supplies.
- Ensure the availability of water, latrine, and shower at the facilities.
- Equip the facilities with all infection prevention materials and supply.
- Ensure the healthcare professionals practice infection prevention control measure at all time.
- Mother should get service by competent healthcare professionals.
- In teaching hospitals, students should be practice in skill lab until be competent before giving care to mothers.
- Ensure that students should give care under supervision by their instructor or experienced staff midwives.
- Assign enough cleaners in the facility particularly stand-by cleaners in the maternity ward, to ensure the maternity ward should be always clean.

7.8.9 Coordinated care

Different professionals offer labour and delivery service for mothers. During this time, coordinated teamwork with respecting and appreciating the role of each other is important since lack of coordinated care between professionals can affect mothers' safety and outcomes (Babiker 2014:9). To manage mothers properly, healthcare professionals should be free of believing or thinking that one profession is more superior to others and they should know their roles which interact with others as a team to achieve a common goal (Babiker 2014:12) and to foster a positive working environment. This situation brings good experience for mothers. The following are recommended as a guide:

- The facility managers promote teamwork by arranging and provide training about the principle and importance of coordinated teamwork for all staff to improve effective communication between staff while providing care for mothers.
- The hospital director/managers should create a conducive working environment by recognising each profession which has its own value for managing mother during labour and delivery.
- The hospital director/management should prepare a manual about a clear role, responsibility, and accountability of each professional by experts and aware for all about their and others responsibility to develop mutual trust and respect each other's and optimize the individual efficiency and advantage of division of work to manage mothers effectively.
- Ensure each provider work as a team for the goal of provision of quality delivery care by creating an evaluating mechanism.
- Ensure accountability mechanism for the healthcare professionals who discriminate /against other professionals

7.8.10 Individualised care

Individualised care is an important indicator of quality care that can enhance positive patient outcomes (Ozdemir 2019:1). It is important for mothers and healthcare professionals by giving chance to understand the health condition and illness of the mothers to manage properly without delay. Moreover, mothers need individualised care for easy communication by

developing a good relationship with their healthcare professionals. Accordingly, the following recommendations have been forwarded:

- Ensure responsible healthcare professional to be assigned for each mother to understand the mother's health condition on time and to meet the need of the mother.
- Be empathetic and friendly approach while giving care to the mothers and their family members.
- Allow company for each mother to support the mother and inform any condition required for the mother to the healthcare professionals.
- Prepare a care plan sheet and attached each mother's documents and strictly follow the mother's condition and record on the care plan. This care plan will help to follow the mother's condition through her labour and delivery process continuously. The care plan could also use as a quality assurance tool to monitor the women's progress and the healthcare professional's competence.
- Create a strong hand over mechanism when a provider shifts.
- Ensure the facility adequate full-time staffing in the maternity ward.
- Ensure accountability mechanism for the healthcare professionals who are reluctant to the mother overall managements

7.9 Implementation of the guidelines

7.9.1 Preamble/ Qualifying statements

The provision of quality delivery services is very complex. There are different domains that require intervention to give quality delivery services such as structure like infrastructure, human resources, guideline, equipment, supply, and management, in case of a process, competency of the healthcare professionals to perform technical care and nontechnical (humanistic) interpersonal care with mother and family members. The output of the service is based on client-centred to bring maternal satisfaction. In addition, some variables considering giving quality delivery services such as client's cases of the mother, their background, experience, their need, expectation, and preference affect quality delivery service need to bring the overall quality delivery service.

It should be noted that there is an individual difference in how to manage childbirth care even though there are universal and national standards of care on how to provide quality delivery service. The standards include the entire three domains, namely, the strategy or recommended intervention to perform quality childbirth care. Therefore, if the basic quality standards are presented, the healthcare professional should render service by adhering to the standards. However, some rooms need to formulate the standards for accessing easily by the healthcare professionals because there are no national separate labour and delivery guidelines. In addition, mothers with labour and delivery case are not homogeneous cases. Based on this, they have different needs, expectations, and preferences. So, the researcher recognised that there will be formulated valid exceptions to the approaches and recommendations provided in this guideline.

7.9.2 Guideline for implementation

To implement the guideline, the researcher assumes that the maternal and Child Health Department Office at the national level of Ethiopia collaborated with Amhara Regional Health Bureau Maternal and Child Health Department in taking responsibility to promote the adoption of the guidelines.The guideline will be reviewed by concerned experts and the guideline is reviewed will be adapted and adopted by the Federal Ministry of Health. Finally, it will be integrated with maternal health training packages like basic emergency obstetric care training, compassionate respectful maternal care (CRC) training, and others particularly labour and delivery related training. Additionally, it will be accessible to all facilities, obstetric departments, facility managers/directors, and act as a reference guide and will be used for the evaluation of facilities by preparing a questionnaire. .

7.10 Conclusions

This chapter presented the development of client-centred childbirth guidelines after assessing health facility quality delivery service to promote the provision of client-centred quality childbirth care in public health facilities for averting maternal morbidity and mortality by increasing mothers` health-seeking behaviours toward institutional childbirth delivery service. This guideline will support facility managers /directors on what should be fulfilled to provide quality delivery service and healthcare professionals to provide care based on the current professional standards and mothers` accepted care. Since this guideline is developed by incorporating different inputs from an extensive review of the literature, exiting national

standards, training manuals, and reviews by different concerned senior expert health professionals. Finally, this guideline came at a crucial time since now the government gave priority attention to quality service based on client-centred service.

CHAPTER 8

CONCLUSION, RECOMMENDATION, AND LIMITATION OF THE STUDY

8.1 Introduction

The previous chapters dealt with the discussion and presentation of both the quantitative and qualitative findings. This chapter concludes the results by drawing the key findings from both qualitative and quantitative findings of the research about the research questions and forwards a summary of practical implications and applications of the recommendations to the concerned body. Finally, this chapter ends by presenting the limitations of the study.

8.2 Conclusions

8.2.1 Summary and interpretation of cross-sectional survey findings

In this section, interpretations of the findings of the cross-sectional survey on quality delivery services among selected governmental hospitals are described in the following sub-sections. According to the study, the overall quality of the institution's delivery service was poor especially referral hospitals that provide poor quality delivery services in all three quality domains. Among the three quality domains, the input quality domain was relatively good. In terms of the type of hospital, primary hospitals relatively gave quality services than referral and general hospitals.

8.2.1.1 Input (a structural aspect of quality)

According to the Donabedian model, three domains assess the quality of institutional delivery services. Among these, the input domain is one of the components that assess the quality of service by considering the facilities of infrastructures, human resources, equipment, and supply dimensions. We found that the input quality domain was poor. It is explained by lack of adequate infrastructure since there is no well-functioning drainage, water supply, ambulance for referral system, adequate and functional basic equipment in the delivery room such as a bed for delivery, infection prevention material, functional and adequate screen, equipment, and drug to provide essential newborn care such as towel and TTC eye ointment. This indicates that lack of equipment, drug, supply, and poor infrastructure seriously affects quality delivery care services.

8.2.1.2 Process (Interpersonal care)

This study has revealed that the quality of intrapartum care services starting from admission until discharge is poor. These poor services include physical examination; essential newborn care, postnatal care that is not complete, labour that is not followed by partographs properly. The interpersonal aspect of evidence-based obstetric care is poor such as not one facility allowed the women to have her preference company at labour room, preferable delivery position and encourage the women to ask a question and no women were greeted on arrival in a socially acceptable manner. Infection prevention practice is also found to be poor in this study. Therefore, improvement should be focused on involving clients and family members in decision-making, provision of information about their conditions and care, allowing of company

and provision of privacy and confidentiality. There is also a need to improve labour followed by partographs and adherence to care protocols.

8.2.1.3 Output (Maternal satisfaction)

This domain analyzes the interpretation and presentation of the findings of maternal satisfaction in terms of two ways. One in terms of institution, how many hospitals give satisfactory service, and the other way is in terms of participants, how many mothers are satisfied among all participants irrespective of the institution. In terms of hospitals, among 8 hospitals only two (25%) hospitals give satisfactory service, both of which are primary hospitals.

This indicates that the services of the general and referral hospitals are poor. In general, poor quality service delivery has a critical effect on maternal health service in different ways. Due to this effect, the health-seeking behaviour of mothers was decreased in high level hospitals even if the high level of comprehensive service is available in general and referral hospitals. Moreover, the goals of maternity service (reducing morbidity and mortality of mothers and Children) were not achieved.

On the other hand, when assessing maternal satisfaction irrespective of the hospitals by using a cross-sectional survey data collection method, 793 delivered mothers were involved.

The main objective is to assess the proportion of maternal satisfaction and to test the hypothesis dealing with the relationship of various independent variables with maternal satisfaction by using bivariate and hierarchical model analysis. When we used hierarchical model analysis, those factors that show association at the binary logistic regression analysis at a cut of the value of p-value ≥ 0.2 are included.

The overall level of maternal satisfaction towards delivery service in this study is poor. Only 38.3% of interviewed mothers were satisfied with delivery services based on the 21likert scale measurements.

This study identified components of good satisfaction and poor satisfaction. Good satisfaction components in this study are triage system, free service similar to qualitative study findings, accessing bed on time, and drug availability. Regarding the interpersonal aspect of care, mothers are satisfied with the prompt examination, treatment with dignity and respect,

whereas poor scores of satisfactions are privacy during delivery service, getting permission for the Accompany, and proper introduction of the healthcare professional that gave the service during delivery. On the other hand, in terms of institutional factors, cleanliness of the delivery environment and informative aspect of care from healthcare professionals are poor scores of satisfactions. Even though the quality of maternal and child health services is poor in the health facilities, almost all mothers recommend health facility service for their relatives and friends.

Measurements according to bivariate analysis maternal education, marital status, and income, mode of delivery, parity, antenatal care visit, and transport and in terms of hospital related factors type of hospital and provider competence have an association to maternal satisfaction. But, in the hierarchical two model analysis, it is indicated that maternal in come, educational status, ANC visit and transport to arrive at the hospital and to travel home. From the health institution and related factors such as process/provider competence have strong level of significant association with maternal satisfaction.

8.2.2 Summary of in-depth interview findings

As indicated in chapter one, the purpose of the in-depth interview is to triangulate the quantitative findings with the qualitative study to address the gap that may not be addressed by the quantitative study. The in-depth interview is mainly focused on the humanistic approach of care like interpersonal care, the experience of the mothers during childbirth, barriers of quality childbirth care to develop the client-centred guideline in the Ethiopian context to improve quality delivery services in terms of mother`s perspective. These findings are highlighted and were interpreted in the view of an in-depth interview of participants and investigator understanding of the situation. The key findings of the in-depth interview are summarised and presented based on the five themes at the result section finally merging with quantitative findings for interpretation and developing a guideline. These themes are perceived quality of delivery service, good experience of quality delivery services of the mother, barrier for provision of quality delivery services, barrier for use of quality delivery service and cause of healthcare professional and client discomfort/disappointment. Therefore, the conclusion of the study is presented under each of the themes identified and described in the following sub-sections.

8.2.2.1 Participant's perception of the quality of childbirth care

Interpersonal care is one of the most important parts of care for quality childbirth care since interpersonal care affects their preferred place of delivery.

- Compassionate care is very important to give quality delivery care service to minimise maternal mortality and morbidity by increasing institutional delivery services. Compassionate care means when the healthcare professional treats mothers politely, fascinating respecting their dignity, showing empathy for both the mother and family members, understanding their feelings, and giving appropriate solutions with a friendly approach. According to the in-depth interview, most of the participants perceived that there is no compassionate care service.
- Mothers need emotional supports during childbirth process with a positive response for their need and encouragement from the healthcare professional to alleviate the pain and get the energy to cope up with their pain and stress. However, most of our mothers who participated in the in-depth interview reported that healthcare professionals were rude, and they did not understand their pain, and did not give emotional support.
- Participants expect to get information and counselling care during the labour and delivery process from healthcare professionals to get knowledge and skill about them and their child's condition. Moreover, mothers considered getting information as emotionally reassuring and getting energy to relieve their stress is important. However, participants in most of the in-depth interview perceived that proper information and counselling are not provided.
- Continuous Individualized care has an impact on quality care.

8.2.2.2 Good experience quality delivery services of the mothers

- Compassionate care is crucial care to save a mother's life and maintain quality delivery service by creating satisfaction for mothers and caretakers.
- Provision of information and counselling service is essential for quality delivery of care. Getting scientific justification about questions posed to the healthcare professional with polite and good communication skills is considered as good quality delivery services by explaining his/her satisfaction.

- A mother getting simplified system of the hospital to get delivery service easily and accessing safe direction by accessing ramp considering the labouring mother creates a good experience. Therefore, clients recognised the existence of two-way direction for labouring mother and have compass/direction should be accessed for the hospital to facilitate the service.
- Clients getting free charge service for all childbirth service created a good experience of deliverying care and this indicates that maternal mortality and morbidity are decreased owing to increasing institutional delivery services. Moreover, they contribute to the level of maternal satisfaction.
- Provision of care immediately when mothers arrive in the hospital created good experience for the mother and their family members.

8.2.2.3 Barrier for provision of quality delivery services

The in-depth interview participants revealed that a wide range of perceived barriers related to infrastructure and interpersonal care while getting childbirth services have been described as follows.

- Participants perceived that an inadequate number of skilled healthcare professionals are a barrier to the provision of quality delivery service. The number of skilled healthcare professionals in the delivery ward is not proportional to client flow.
- The participants perceived that the collaborative effort of a different professional team is essential for the provision of quality delivery service, but obstetricians and the hospital managers decided the labour to be managed by students/interns rather than midwives for the purpose of teaching. On the other hand, emergency surgeons and midwives do not respect each other/ understand their respective decisions while managing mothers.
- Inadequate infrastructure such as lack of diagnostic laboratory reagents, lack of a bed, lack of supply, and lack of adequate room and space are barriers to the provision of quality delivery services. Even though there are skilled professionals to manage a mother owing to lack of laboratory reagents the healthcare professional will be forced to refer the mother to other health facilities and the number of beds is not proportional to the client flow, and the rooms very crowded to give quality delivery service as per the standards.

- Shortage of supply and beds are barriers to the provision of quality delivery services. Mothers lie on the floor after delivery; where it is not convenient to give quality care.
- Accessibility of enough number of rooms and space is a safe and not for luxury. All normal and complicated cases had been admitted in one room with attendants. During this time, the room is congested. The congested room with a lack of sanitation is exposed to neonatal sepsis.
- Poor referral system results from the absence of ambulance with responsible driver in the hospital. This causes the first delay to arrive on time and next delay to manage on time which creates discomfort for both healthcare professionals and clients.

8.2.2.4 Barriers to use of quality delivery services

- Inaccessibility of drugs in the hospital pharmacy exposed mothers to delayed treatment after arrival in the hospital.
- Ordering mothers to buy medicines in the private pharmacy out of the hospital campus exposed the mothers and family members to unnecessary expenses since the private pharmacy cost of medicines is very expensive.
- The cost paid for medicines creates a financial burden for mothers and their families.
- Lack of drug in the hospital campus during night-time creates security problems for family members.
- Inaccessibility of the necessary supplies in the maternity room affects mothers` safety. Mothers sleep on the rubber sheet without linen which brings discomfort owing to irritation of their body by a rubber sheet.
- Lack of individualised care not only creates delay to diagnosis and treatment but also creates a lack in trust of the healthcare professional.
- Healthcare professionals discriminate against mothers while giving delivery care in terms of their place of residence and social attachment which affects the quality of delivery service and creates dissatisfaction. Mothers who come from rural areas and who do not know healthcare professionals were discriminated against and are not given care on time.
- Provision of delivery service by intern students without coaching affects quality delivery care. Majority of the in-depth interview participants perceived that intern students are yet incompetent to give quality delivery service.

- Healthcare professional competency and experience is the key for maintaining quality delivery services and determines their preferred place of delivery. Mothers preferred to deliver in the health centre and private hospital than government referral hospital since there are no students in private and health centre institution.

8.2.2.5 Cause of healthcare professionals and mothers' discomfort

- Healthcare professionals do not assure mothers' privacy during the examination which creates discomfort. Mothers are disappointed and feel discomfort when they had been examined in an open bed without a screen which exposed mothers to every person to observe their exposed body.

- Healthcare professionals do not allow companies during labour and delivery which creates discomfort. Mothers considered the presence of companies as a source of energy reducer of pain.
- Healthcare professionals are reluctant for consultation service even when they are requested for assistance.
- Unbalanced payment of the Health healthcare professionals causes dissatisfaction of the healthcare professionals in their job.
- Unethical conduct by healthcare professionals creates disappointment and discomfort. Repeated painful vaginal examination by inexperienced students and offensive words by some healthcare professionals owing to overload of the work creates disappointment and discomfort for the mother and caretakers.
- Ethical cares are important for giving quality delivery services and promote institutional delivery services since mothers' place of delivery is decided by ethical service.

8.3 Recommendations

8.3.1 Policy and programme recommendations for improving quality delivery services

- Improve the availability of medicines, basic supply and diagnostic service needed for maternal, child healthcare, monitoring the health facility, continued availability of medicines and supply on a regular basis.

- Improve the infrastructure of public health facilities including beds, water, room, and sanitary facilities to accommodate more clients and avoid congestion.
- Avail maintenance experts in the public health facility to maintain the functionality of the equipment.
- Support the health centres to be functional to avoid unnecessary referral cases to minimise the overload of the referral hospitals.
- Preserve continuous cleanliness of public health facilities.
- The pre-service training programmes should be skilled based on revising the curriculum.
- Awareness creation for support staff to improve care coordination by understanding the ethics of health should be done.
- The challenge related to transportation problems for referral cases requires a sustainable solution. The current government efforts to have a functional referral system through the distribution of ambulance for health centre policy should be continued and scaled up to hospitals and monitoring the drivers to give appropriate service on a regular basis to ensure the continuum of care in the healthcare system.
- Improve the number of skilled healthcare professionals based on client flow of the facility for the provision of quality delivery service by adhering to the standards and minimising over stretching of the healthcare professionals.

- Improving the skills of healthcare professionals through in-service training by assigning fresh healthcare professionals with experienced professionals for experience sharing in primary hospitals with the provision of basic equipment and supply needed for maternal care with proper monitoring by experts on a regular basis.
- Build interpersonal skills of healthcare professionals through practical and accountability based in-service training and coaching healthcare professionals while giving the service is equitable, ethical, and respectful, and client-friendly care by senior experts.
- Provide necessary information for mothers and caretakers in a polite manner and emotional support for clients, to relieve stress and get the energy to cope up labour pain and to have a positive attitude towards institutional delivery service in the future for them and recommend for others.

- Establish skill lab with furnishing high-fidelity model in each public health facility near to maternity ward to improve the skill of healthcare professionals and students to practice every case before managing real mothers to ensure mothers safety.

- The challenges of getting skilled full service in teaching hospitals need a sustainable solution by improving the skill of students during practical teaching under supervision. This should entail building a team spirit and respect teamwork among instructors, hospital staff, and students to improve the evaluation of students and ensure mothers safety through the regular base monitoring system.

8.3.2 Recommendations for further studies

- Studying the competence of the healthcare professionals and performance of the facility using an adequate number of samples to determine factors strongly associated with the provision of quality delivery service using both observations and in simulation techniques for provider competence.
- Studying birth outcomes is crucial to evaluate quality delivery service.

  Studying maternal satisfaction by using data collection at home after delivery is better for preventing the Hawthorne effect of data collection at the facility level.

8.4 Contribution of the study

Conducting this quality of institutional delivery care service at public health facilities in northwest Ethiopia was a huge learning curve for the researcher. It was a good learning opportunity for research methodology and the existing situation of delivery service in the study area. The most positive part of the researcher was using mixed method research design and active participation of the data collectors.

Research that examines the quality of institutional delivery care services at public health facilities in north west Ethiopia using mixed method study design is limited, the finding of this study added to the existing body of knowledge on quality of institutional delivery care service in Amhara region north west Ethiopia.

It must be indicated that, even though these finding is not novel findings, their value must not be underestimated.Since this study is the first study in the study area that has been combined both qualitative and quantitative methods to comprehensively investigate views among mothers, care providers and attendants/accompanies of facility based quality child bith care services.understanding facility quality delivery care services in terms of the current standards, users(mother perspectives) and provider perspective is very important and helpful in guiding the researcher to develop evidence based client-centered guideline and also health care professionals and programmers design and implement client–centered guideline that improve quality delivery care service.

The proposed guideline based on the findings was important to improve the quality of facility delivery care service by supporting facility managers on what should be fulfilled to provide quality delivery service, healthcare professionals to provide care by harmonized the current professional standards and mothers accepted care and increasing mothers' utilization of institutional childbirth delivery service. Consequently, obstetric complication that leads to maternal death secondary to labor and delivery would be managed and ensuring reduction of maternal morbidity and mortality In Ethiopia.

8.5 Limitation of the study

- During data collection, the data collector faced difficulty to record the type of skilled healthcare professionals who gave care since the healthcare professional was replaced by other healthcare professionals before completing the delivery services /one mother labour managed by more than one provider. However, they solved the problem by communicating with the head of the maternity ward about the schedule of the healthcare professionals' duty arranged to be convenient for data collection.

- Most of the labouring mothers come to the facility after the first stage is finalised at home which creates increasing the data collection period to get eligible participants until our sample size is fulfilled. Also, among some labouring mothers, the labour ends up by cesarean section during this period it is difficult to observe second the stage of lobar.

- One limitation of this study is the existence of difficulty to avoid the possibility of social desirability bias especially in the case of face-to-face in-depth interviews, particularly from immediate postpartum mother who admitted to the labour ward which increases the chance of answering more desirable response
- During data analysis, the sample size of the healthcare professionals is small to use different statistical analyses.

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ANNEXES:

1 Annexe 1: Ethical clearance approval certificate from unisa

UNISA

UNIVERSITY OF SOUTH AFRICA
Health Studies Higher Degrees Committee
College of Human Sciences
ETHICAL CLEARANCE CERTIFICATE

REC-012714-039

HSHDC/490/2015

Date: 9 December 2015 Student No: 5765-478-6

Project Title: Quality of institutional delivery care services at public health facilities in North-West Ethiopia.

Researcher: Eleni Admassu Mersha

Degree: D Litt et Phil Code: DPCHS04

Supervisor: Prof ZZ Nkosi
Qualification: PhD
Joint Supervisor: -

DECISION OF COMMITTEE

Approved √ **Conditionally Approved**

Prof L Roets
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE

Prof MM Moleki
ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES

2 Annexe 2: letter of permission from regional health bureau to Conduct the study

በአማራ ብሔራዊ ክልላዊ መንግስት ጤና ጥበቃ ቢሮ
Amhara National Regional State Health Bureau
Amhara Public Health Institute
የአማራ ህብረተሰብ ጤና ኢንስቲትዩት
ባህር ዳር

Ref No ....
Date ....
ቁጥር [illegible]
ቀን 11/07/2010ዓ.ም

ለፈለገ ህይወት ሪፈራል ሆስፒታል

ለጎንደር ሪፈራል ሆስፒታል

ለአዲስ ዘመን የመጀመሪያ ደረጃ ሆስፒታል

ለደብረታቦር ጠቅላላ ደረጃ ሆስፒታል

ለንፋስ መውጫ የመጀመሪያ ደረጃ ሆስፒታል

ለአስቴ የመጀመሪያ ደረጃ ሆስፒታል

ለፍ/ሰላም የመጀመሪያ ሆስፒታል

ለመርአዊ የመጀመሪያ ደረጃ ሆስፒታል

ባሉበት

ጉዳዩ፡- የትብብር ደብዳቤ ስለመስጠት

ሲ/ር እሴኒ አድማሱ በባህር ዳር ዩኒቨርሲቲ፣ በህብረተሰብ ጤና ትምህርት ክፍል መምህር እና በአሁኑ ሰዓት የ3ኛ ድግሪ ተማሪ ሲሆኑ "Quality Of Institution Delivery Care Services At Public Health Facilities In North West Ethiopia."በሚል ርዕስ በተቋማችሁ ውስጥ ጥናታዊ ጽሁፍ እንዲሰሩ ፕሮፖዛላቸው በUniversity Of South Africa ኢቲካል ሪቪው ቦርድ ተገምግሞ ተቀባይነት ያገኘ በመሆኑ በመ/ቤታችሁ በኩል አስፈላጊው የስራ ትብብር እንዲደረግላቸው እያሳወቅን፤ ጥናቱን የሚያካሂደው አካልም ጥናቱን ሲያጠናቅቅ ውጤቱ ጥናቱ ለተካሄደበት ማህበረሰብ ጥቅም ላይ መዋሉን ለመከታተል ያመች ዘንድ ቅጂ ለአማራ ህብረተሰብ ጤና ኢንስቲትዩት የምርምርና ቴክኖሎጂ ሽግግር ዳይሬክቶሬት እንዲያቀርብ እናሳውቃለን።

ከሰላምታ ጋር

➢ ግልባጭ፡
- ✓ ለአማራ ህብረተሰብ ጤና ኢንስቲትዩት ዋና ዳይሬክተር
- ✓ ለምክትል ዋ/ዳይሬክተር
- ✓ ሲ/ር እሴኒ አድማሱ

ባሉበት

✉ 477 Tell. 0582263223 0582220191 Fax. 0582266701 / 0582263223

3 Annexe 3: sample participant informed consent

Information sheet
Read the statements to the care provider and labouring mother/relative
Purpose of the research project: This study is one part of evaluating quality skilled maternal service in Amhara region Ethiopia.
The main aim of this particular tool is to measure adherence of healthcare provider to standard care during child birth process for those who are working at maternity unit
Procedure: In order to collect our data, we invite you to take part in our project. If you are willing, you need to understand and sign the consent form.

Risk: By participating in this research project you may feel some discomfort especially on sacrifice your time otherwise no risk in participating in this study.

Benefits: If you are participating in this research project, the output of the study will have both direct and indirect benefit to you, as you and your families will use the services in the future.

Incentives/payments for participating: You will not be provided any incentives or payment to take part in this study.

Confidentiality: The information collected from this research project will kept confidential and information about you that will be collected by this study will be stored in a file, without your name, but a code number assigned to it. And it will not be revealed to anyone except the principal investigator and will be kept locked with key.

Right to refusal or withdraw: You have the full right to refuse from participating in this research and also you can interrupt at any time.

Person to contact: If you want to know more information you can contact;
S/r Eleni Admassu Mobil number: +251-09-18-77-27-75, E-mail: eleniam16@gmail.com

Consent form (for both provider and labouring mother or companion)
With due understanding of the aforementioned information, are you willing to participate in the study?

☐ ☐ 1. Yes --------continue ☐ 2. No -------End

Interviewer: Name _____ Signature _____ date _____ Supervisors: Name _____ Signature _____ date _____

4 Annexe 4: sample participant informed consent (amharic version)

የወለዱእናቶችከሆስፒታልከመውጣታቸውበፊትሊነበብላቸውይገባል

እደምንአደሩ/እደምንዋሉ. ስሜ ------

የዚህጥናትአላማ፡-
ይህጥናትበአማራክልልባሉሆስፒታሎችየሚሰጠውንየወሊድአገልግሎትጥራትለመዳሰስስሲሆን፤፤የዘህመ
ወያያመምሪያዋነኛአላማውደግሞእናቶችበሆስፒታልስለሚሰጠውየወሊድአገልግሎትጥራትያላቸውንል
ምድ፣ግንዛቤእናተሞክሮለመዳሰስይሆንል

. አካሄድ፡-ይህንመረጃለመሰብሰብእርሰዋንየጥናቱአካልበማድረግጠርተናል ፈቃደኛ ከሆኑ
መጀመራያህሳቡንልትረዱትእናየስምምነትውልልትሰጡኝይገባል፤፤ፈቃደኛከሆኑበዚህሆስፒታልስላገኙ
ትየወሊድአገልግሎትአንጠይቃችሆለን፤፤ለዚህጥናትመረጃበመስጠትበመሳተፈዋትየሚደርስበዋጉዳትሰ
አተወንከመሻማት(10-20 ደቂቃ) በስተቀርምንምጉዳትየለም

.
ጥቅምንበተመለከተበዚህጥናትበመሳተፈወትመንምአይነትክፈያየለውምይሁንእንጂለወደፊትበቀትታም
ሆነበተዘዋዋሪእርሰዋምሆነ፣ቤተሰበዋትአልፎምማህበረሰቡየወሊድአገልግሎትተጠቃሚእደመሆናችሁ
መጠንተጠቃምትሆናላችሁ .

ሚስጥርነቱየተጠበቀነው፡-
ለዚህጥናትየሚሰጡንመረጃሚስጥርነቱበአስተማማኝሁኔታየተጠበቀነው፤፤ይህምመረጃመስጫውቅጽስ
መወትአይገለጽምበፈንታውመለያምልክትበመስጠትነውየምንጠቀመውእንዲሁምየተሰበሰበውመረጃበቁ
ልፍታሽነበመቀመጥከዋንውተመራማሪበስተቀርማንምሊጠቀምበት/ ሊያየውአይችልም፤፤

የተሳታፊውመብት፡-
እርሰዋበማንኛውምሰአትመረጃለመስጠትየማቆረጥመብተወትየተጠበቀነው፤በማቆረጠወትምማንምሊጎ
ዳዋትአይችልም፤፤እንዲሁምሁሉንመጠይቅየመመለስግዶታየለበወትምበሙልእረፍትእወሰዱየመመለስ
መብተወምየተጠበቀነው

ተጠሪ፡-
ንኘማውንምተጨማሪስለምርምሩመረጃቢያስፈልገወትከዚሁበታችስማቸውየተጠቀሰውንሰውማንገር
ይችላሉ ሲ/ርኤሌኒኤድማሱስልክቁጥር 0918772775

, E-mail: eleniam16@gmail.com
መመሪያ:ለተጠየቁትጥያቄዎችየተመለሱትንአማራጭከበብእንዲሁምበጽሁፍየሚመለስትንበተቀመጠ
ውቦታበመጻፍአስቀምጡ

የስምምነትቅጽ
አሁንእሚጠይቁኝነገርአለዋትስለጥንቱ
መጀመርእችላለሁ

1. ተስማምቻለሁ ---------- መቀጠልይቻላልአልስማማም ------- አቁም
መረጃሰብሳቢስም : _____ ፊርማ _____ ቀን
_____ የተቆጣጣሪስም _____ ፊርማ
_____ ቀን _____

5 Annexe 5: questionnare

Annexe 5:1 Questionnare for objective one

Facility code
Tools for Facility Based Survey (Facility Audit)

Introduction (Manager and senior staff in the health facility)

Hello. My name is _____ and I am working with the Bahirdar University researchers. We are conducting a survey about quality skill delivery care. We would very much appreciate your participation in this survey. This information will help the government to plan health services. The survey usually takes between 10 and 15 minutes to complete. As part of the survey we would first like to ask some questions about your institution maternity service. Whatever information you provide will be kept strictly confidential, and will not be shared with anyone other than members of our survey team.

Participation in this survey is voluntary, and if we should come to any question you don't want to answer, just let me know and I will go on to the next question; or you can stop the interview at any time. However, we hope you will participate in the survey since your views are important.

Consent form
At this time, do you want to ask me anything about the survey?
May I begin the interview now?

☐ 1. Respondent agrees to be interviewed ----------Continue
☐ 2. Respondent does not agree to be interviewed ------- End

Interviewer: Name _____ Signature _____ date _____
Supervisors: Name _____ Signature _____ date _____
Date of data collection: ____/____/_____

	Zone	Wereda	Kebele	Health facility
Name				
Code				

PART I: Background information: **Instructions:** Please complete the following questions based on discussions with facility manager			
No	**Question**	**Answer**	**Skip**
101	Sex of provider	1. Male 2. Female	
102	How old are you?	_____years	
103	What is your position?	1. Medical director Qualification?_____ 2. Head of the facility Qualification?_____ 3. Maternity department head Qualification?_____ 4. Maternity staff member Qualification?_____ 5. Other (specify): _____	
104	For how long you have been working as a manager (head of maternity) at this facility	_____Months _____years	
105	Average volume of delivery per day in the facility	_____	
106	What is the estimated catchment population served by this facility?	Total: _____	
107	In your estimation, how frequently do people from outside this facility catchment area seek care here?	1. Never 3. Frequently 2. Rarely 99 Do not know	
108	How many maternity beds are there at this facility?	Total: _____	
109	Are there enough beds for the current caseload of maternity clients?	1. Yes 2. No 99. DK	
110	What is the condition of the beds? *(OBSERVE AND MARK ONE)*	1. Most are in good shape 2. Most need minor repair 3. Most need major repair or replacement	
111	Is there a separate examination room for labouring mother *(OBSERVE)*	1. Yes 2. No	
112	Are there other health facilities in the area? (In the same town or within 5-10km) that provide delivery care?	1. Yes 2. No	
113	Is the health facility accessible to the population?	1. Yes 2. No 99. DK	
114	What is the antenatal care coverage rate for this facility in the previous year? (2009 E.C) or	_____ %	

	(*Take From HMIS)*				
115	What is the delivery coverage rate for this facility in the previous year? (2009 E.C) or (*Take From HMIS)*	_____ %			
116	What is the postpartum care coverage rate within one week after delivery for this facility in the previous year? (2009E.C) or (*Take From HMIS)*	_____ %			
PERSONNEL					
	At this facility how many of each of the following staff are employed and working?		**Male**	**Female**	
117	Physicians (both general medicine and Pediatrician	Total: _____	_____	_____	
118	Health officers	Total: _____	_____	_____	
119	Nurses	Total: _____	_____	_____	
120	Midwifes	Total: _____	_____	_____	
121	obstetrician/ gynecologist/emergency surgery MSc	Total: _____	_____	_____	
122	Anesthetists	Total: _____	_____	_____	
123	Lab. Technician	Total: _____	_____	_____	
124	Pharmacists	Total: _____	___	_____	
125	Cleaner	Total: _____	_____	_____	
126	Porter	Total: _____	_____	_____	

RECENT TRAINING IN MIDWIFERY

127 How many staffs at this facility have received training in midwifery skills within the past twelve months? Total: _____

For the following types of training **Within the Within the** How many staffs trained: *Ask* (in-service), Do staffs from this **past 12 past five** *about each category of provider* facility attended; **months? years?** *separately for each type of training. If none, enter **0**.*

		Yes(1)	No(2)	Yes(1)	No(2)	Midwife	HO	Nurse
128	Life Saving Skills (LSS): BEmONC	1	2	1	2	_____	_____	_____
129	Life Saving Skills (LSS): CEmONC	1	2	1	2	_____	_____	_____
130	LSS: Helping baby breath (resuscitation)	1	2	1	2	_____	_____	_____
131	staffs trained to manage sick newborns	1	2	1	2	_____	_____	_____
132	Interpersonal communication/counselling	1	2	1	2	_____	_____	_____
133	Infection Prevention (IP)	1	2	1	2	_____	_____	_____
134	PMTCT	1	2	1	2	_____	_____	_____
135	Has any staff who participated in LSS training left the facility within 6 months? **If 'YES'** How many?					1.Yes, --------How many_____		2. No
136	In your opinion, do staffs work as a team (to respond emergencies)?					1. Yes		2. No to

Part II. 24 HOURS SERVICE AVAILABILITY AND REFERAL

	Are the following services provided every day that this facility is open?	(Yes)	(No)
201	Antenatal care	1	2
202	Normal delivery care	1	2
203	Postpartum care services (for mother and newborn)	1	2
204	Family planning services	1	2
205	Post abortion care	1	2
206	Child health services	1	2
207	PMTCT	1	2

208 Labouratory service 1 2

209 Newborn immunizations according to national immunization guidelines 1 2

	SERVICES ski	Yes (1) p	No (2)
210	Is there blood supply available for transfusions at this facility 24 hours a day, 7 days/week?	1	2
211	Are anesthesia services available at this facility 24 hours a day, 7 days/week?	1	2

Infrastructure 1 2 212 Does this facility have a working ambulance or other means of transport in place to refer an obstetric emergency?

213 Is the ambulance (or other mode of transport) fuelled at all times? 1 2

214 Do client pay for costs of transport using ambulance? 1 2

215 Does this facility have a working phone or shortwave radio that is available at 1 2

	all times client services are offered? [even not locked during weekend time available to all staffs]			
216	Does this facility have electricity? (*OBSERVE AVAILABILITY*)	1	2	
217	Does this facility have back-up or standby generator and fuel available for electricity? (*OBSERVE AVAILABILITY*)	1	2	
218	Does the health facility have water	1	2	
219	What means of communication does your facility mainly use to call for transportation to refer an obstetric emergency? *(more than one response allowed)*	1. None 2. Radio 4. Telephone line 5. Mobile/Cell phone 6. Computer/Internet availability 7. Other specify): _____		
220	To what facility do you normally refer obstetric complications? *If facility does not refer cases, tick Not applicable and skip to Q 231.*	1 General hospital 2. Referral Hospital (specialized hospital) 3. Other (specify): _____ 99. Not applicable.		
221	During referring patient who taker of the patient until arrival	1. Any staff from maternity ward 2. Any staff working outside maternity 3. The one staff who diagnose her 4. other _____		
222	When you refer a case to another facility do you get feedback on the outcome of the case? Tick best response.	1. Never 2. Less than half of the time 3. More than half of the time 4. Always		

MANAGEMENT and SUPERVISION (Policy Practice)					
223	Is there a system for reviewing management/ administrative issues (meeting)	1. Yes 2. No			
224	Is there a system to obtain clients' opinions regarding services at maternity	1. Yes 2. No……skip to **Q226**			
225	If YES, circle all methods that are used for eliciting clients' opinions. Probe for all methods used (OBSERVE)	1. Suggestion box 2. Client survey form 3. Client interview form 4. Official meeting with community leaders 5. Informal discussions with client or community 6. No client feedback 7. Other (Specify)_____			
226	Is there a procedure for reviewing or reporting on clients' opinions? If YES, ask to see a report or form on which data are compiled or discussion is reported.	1.Yes, report seen 2.Yes, report not seen 3. No			
227	Is the facility has a routine program for quality monitoring	1. Yes 2. No.....skip **Q229**			
228	If YES, ask about common quality assurance activities. Can I see some document or record that shows this has been carried	Document Observed	Document reported,	Method	
	out during the past year?		not seen	not used	
	1. Supervisory checklist of health system components (such as service-specific equipment, medications, and records) 2. Supervisory checklist of health service provision (such as an observation checklist) 3. Facility-wide review of mortality 4. Periodic audit of medical records or service registers 5. Quality assurance committee or staff reports 6. Other (specify)_____	1 1 1 1 1	2 2 2 2 2	3 3 3 3 3	
	Do the supervisors perform the following during the last supervisory visit?	**Yes (1)**	**No (2)**		
229	Assess status of facility (cleanliness, water, availability, etc.)	1	2		
230	Deliver drugs & supplies	1	2		
231	Review facility record-keeping	1	2		
232	Gather data from service delivery records	1	2		
233	Assist staff in improving their performance	1	2		
234	Follow-up on problems identified during previous visit	1	2		

235	Provide feedback on facility performance	1	2	
236	Do you think the problems or deficiencies identified in the visits been resolved?	1	2	
237	Does this facility have a program for routine maintenance and repair of infrastructure and major equipments (refrigerator, sterilizer other machine)?	1	2	
238	Is there an infection control committee or a person assigned specifically for infection control?	1	2	
239	Does this facility have program for staff working at maternity (staff shift)	1	2	

Ask Head of maternity ward from this question

Part III. ROUTINE OBSTETRIC PRACTICE (For senior staffs working at maternity unit)
Instruction: Please complete the following section on routine obstetric care practice at this facility (Senior staff in maternity)

No.	Question	Response	
301	Do women in labour allowed to have birth companion at this facility	1. Allowed always 2. Allowed in especial cases 3. Not allowed at all	
302	Do women during delivery allowed to have birth companion at this facility	1. Allowed always 2. Allowed in especial cases 3. Not allowed at all	
303	Do women in labour allowed to drink water or fluid during labour	1. Yes 2. No	
304	Do women in labour allowed to movement during labour	1. Yes 2. No	
305	Do women in labour took pharmacological methods of pain relief Staffs were able to demonstrate skills of basic and advanced neonatal resuscitation	1. Yes 2. No	
306	Do women in labour monitored by partograph routinely,	11. Always..... Skip to **Q308** 2. Sometime 3. Rarely 4. No	

307	If NO, SOMETIME or RARELY for Q306, Reason for not using partograph routinely	1. Not available 2. Not trained in the use 3. Use of partograph complicated 4. High Workload 5. Other (specify)_____		
308	Does the partograph correctly filled (Clock+ Fetal heart beat + Maternal vital sign measured) [SEE TWO SAMPLE PARTOGRAPH From document]		1. Yes	2. No
309	Do all staffs use measures of infection prevention during delivery		1. Yes	2. No
310	Do staffs measure blood pressure		1. Yes	2. No

311	Do all staffs respect women's preferable position during labour		1. Yes	2. No
312	Do all staffs use oxytocin during third stage of labour (within 1 minute of delivery)		1. Yes	2. No
313	Do all staffscontrolled cord traction		1. Yes	2. No
314	Do all staffs massage Uterus after delivery of baby			
315	Do all staffs examine the placenta		1. Yes	2. No
316	**Immediate Newborn Care**		1. Yes	2. No
317	Do all staffs measures and records 5 minute APGAR score		1. Yes	2. No
318	Do all staffs place the baby on mother's abdomen after delivery (skin to skin contact)		1. Yes	2. No
319	Do all staffs dry baby immediately after delivery		1. Yes	2. No
320	Do all staffs apply eye ointment to the baby's eyes after delivery		1. Yes	2. No
321	Do all staffs provide vitamin K to baby's after delivery		1. Yes	2. No
322	Do all staffs weigh baby after delivery		1. Yes	2. No
323	Do all staffs encourage mother to initiate breast feeding within 1 hour after delivery		1. Yes	2. No
324	Do all staffs counsel mother during postpartum period: about *Don't read the lists below only circle the response*	1. Yes	2. No.....…skip **Q401**	
325	Breast feeding frequency	1. Yes	2. No	
326	Danger sign to mother; danger sign to newborn;	1. Yes	2. No	
327	Appointment for PNC	1. Yes	2. No	
328	Family planning	1. Yes	2. No	
329	Prevention of heat loss for baby	1. Yes	2. No	
330	Child immunization	1. Yes	2. No	
	PART IV: *LOGISTICS AND PAYMENT SERVICE*			
401	At least once in the past six months has this facility ever run out of drugs and medical supplies (any drug)?	1. Yes 2. No		
	Payment for services			
402	Are maternity clients required to pay/provide supplies/drugs at time of delivery?	1. Yes **Skip to 501**	2. No ----------	

	If YES to Q404, which of the following supplies required paying or purchasing or providing by client?	Yes (1)	No (2)	
403	Gloves	1	2	
404	IV solutions	1	2	
405	Suture material	1	2	
406	Medications/Medicine	1	2	
407	Sanitary pads	1	2	

409	Blood	1	2	
410	Admission fees	1	2	
411	Fees for procedures (SVD, C/S, MVA)	1	2	
412	Fees for Food	1	2	
413	Fee for transportation (ambulance)	1	2	

	Part V. CLINICAL MANAGEMENT GUIDELINES & PROTOCOLS (Facility Readiness)					
501	Are the following types of maternal health service delivery guidelines/clinical management protocols; 1) are available at the facility? 2) Clearly outline steps in management of complication?	**Available**		**Clearly outline steps of management**		
		Yes (1)	No (2)	Yes (1)	No (2)	
502	Life saving skills: self directed learning guide	1	2	1	2	
503	Guideline on Management Protocol on Selected Obstetrics Topics	1	2	1	2	
504	Are these guidelines/protocols available for reference by staff at all times?	1. No, they are locked for safe keeping 2. No, staff keep them in their homes 3. Yes 4. other (specify): _____ 99 Do not know				
505	In your opinion, what are the two greatest problems facing this health facility right now? What are the solutions to these problems?					
506	**Problems Solutions**	1. 1. 2. 2				
507	In your opinion, what are the two greatest obstacles to increasing the proportion of births attended by staff with midwifery qualifications?					
508	**Obstacles** 1. 2.	**Solutions** 1. 2.				

	LABORATORY SERVICES EQUIPMENT & REAGENTS					
	Which of the following services; *Request to interview laboratory staff if available. Ask about each service separately.*	**Today available at this facility?**		**Provided within the past week?**		
		Yes (1)	No (2)	Yes (1)	No (2)	Remark
509	ABO and Rh factor blood typing	1	2	1	2	
510	Basic Blood test—Hgb, Hct, WBC: *If not provided why?*	1	2	1	2	
511	Urin analysis/proteinuria: *If not provided why?*	1	2	1	2	
512	Blood test—Malarial parasites: *If not provided why?*	1	2	1	2	

PART VI. OBSERVATION *OF THE FACILITY AND SUPPLYS (Audit)*

Instruction: The interview portion of this instrument is now complete. The remaining sections should be complete through observation.

	INFRASTRUCTURE AND EQUIPMENT		
	Which of the following items are available and functional? *Be sure to look at each item. Code as not usable items which in your judgment are not functional, have missing parts, are unhygienic, expired, or otherwise sub-standard. Health care provider will be asked for adequacy of materials.*		**Code if the item is available only**
601	Screen for privacy available	0. Not available 1. Available but not usable 2. Available and usable	1. Adequate 2. Inadequate
602	Examination table	0. Not available 1. Available but not usable 2. Available and usable	1. Adequate 2. Inadequate
603	Storage area or cupboard for drugs and other supplies	0. Not available 1. Available but not usable 2. Available and usable	1. Adequate 2. Inadequate
604	Toilet facilities or latrine at facility	0. Not available 1. Available but not usable 2. Available and usable	1. Adequate 2. Inadequate
605	Delivery bed/couch	0. Not available 1. Available but not usable 2. Available and usable	1. Adequate 2. Inadequate
606	Delivery room light (Movable)	0. Not available 1. Available but not usable 2. Available and usable	1. Adequate 2. Inadequate

607	Newborn corner (Ambo back, resuscitation table, suction, mask)	0. Not available 1. Available but not usable 2. Available and usable	1. Adequate 2. Inadequate
608	Refrigerator	0. Not available 1. Available but not usable 2. Available and usable	1. Adequate 2. Inadequate
609	Which of the following does the labour room usually have for light supply?	1. None available 2. Electricity 3. Candles 4. Kerosene lamp 5. Battery torch with working batteries 6. Generator 7. Solar power 8. Other (specify): _____ 99. No labour room	
610	Does this facility have back-up or standby generator and fuel available for electricity? (*OBSERVE AVAILABILITY*)	1. Yes 2. No	
611	Does the health facility have water available today?	1. Yes 2. No	
612	What is the main water source for this facility?	1. Piped inside dwelling/facility 2. Piped to yard/plot 3. Public tap 4. Protected spring 5. Unprotected spring 6. Protected well 7. Unprotected well	
613	Does the facility have a computer? IF YES, ASK: Is the computer functioning today? (REPORTED RESPONSE IS ACCEPTABLE)	1. Yes, functioning 2. Yes, not functioning 3. No	
614	Is there ever access to email/internet within the facility?	1. Yes 2. No	
615	Does the labour room have adequate drainage?	1. Yes 2. No	

616	Does this facility sterilize its equipment using the following techniques or available and functioning?	**Yes (1)**	**No (2)**	**Adequacy**
	1. Autoclave/steam/vapor	1	2	1. Adequate 2. Inadequate
	2. Dry Oven	1	2	1. Adequate 2. Inadequate
	3. Boiling	1	2	
	4. Chemical method (chlorine)	1	2	
	5. Process outside facility	1	2	

Maternity service: This will be filled through observation and interview with staff					
617	**Room for maternity service:**	**Yes (1)**	**No (2)**	**Hand Washing Basin available and functional inside rooms**	
	1. Availability of separate waiting room for labouring mothers	1	2	1	2
	2. Availability of separate room for delivery (Second stage)	1	2	1	2
	3. Availability of separate room for post natal	1	2	1	2
Postnatal or waiting room: if there is more than one room, focus on post natal room				**Through Observation**	
619	Number of beds in postnata room			_____	
620	Is the postnatal room clean?			1. Yes 2. No	
621	Is it well lit during the day (natural light)?			1. Yes 2. No	
622	Are there ceiling fans or other means of ventilation?			1. Yes 2. No	
623	Are there working lights for nighttime?			1. Yes 2. No	
624	Does it get overcrowded? (patients and visitors)			1. Yes 2. No	
625	Is there a functioning toilet with shower for clients in maternity ward			1. Yes 2. No → **skip to 629**	
626	Are the toilets clean?			1. Yes 2. No	
627	Toilet for patient has water for hand-washing			1. Yes 2. No	
628	Toilet for patient provided soap			1. Yes 2. No	
629	Are empty beds clean and ready for the next patient?			1. Yes 2. No	
630	Who provides linens for patients?			1. Facility 2. Family	
631	Who provides food for patients?			1. Facility ---------- **skip to 633** 2. Family 3. Not Given	
632	For unaccompanied women, does the hospital provide food?			1. Yes 2. No	
633	How would you characterize provider/patient interaction in the ward?		1.Cold/Indifferent 2. Punitive/Angry	3. Warm/Helpful 4. Unable to observe	
The labour/delivery room:					
634	Delivery room area of the floor: ASK OR ESTIMATE			_____ M^2	
635	Both the wall and floor of Delivery is washable			1. Yes 2. No	
636	Are there enough delivery tables (coach) for the current caseload?			1. Yes 2. No	
637	Is the delivery room clean?			1. Yes 2. No	
638	Is there adequate light for procedures?			1. Yes 2. No	
639	Are curtains or other means used to establish privacy?			1. Yes 2. No	
640	Are delivery tables clean and ready for the next patient?			1. Yes 2. No	

641	Are supplies and equipment organized? (i.e. trolley or cabinet)	1. Yes 2. No
642	Are supplies and equipment easily accessible?	1. Yes 2. No
643	Is there a stock of emergency medications?	1. Yes 2. No
644	Is the stock of emergency medications easily accessible?	1. Yes 2. No
	Absolute minimum equipment for delivery and newborn care	
645	Are items for delivery care prepared today? OBSERVE (if 'YES' for 651-658).	1. Yes 2. No
646	At least two delivery set readiness (cord scissors, cord tie, two artery forceps)	1. Yes 2. No
647	Episiotomy set (catgut, one tissue forceps, one needle holder, one scissors/blade,)	1. Yes 2. No
648	Resuscitation material for newborn readiness and functional (Ambo back, Suction, Two mask)	1. Yes 2. No
649	At least two cloth or towel to dry or warp baby after birth is available	1. Yes 2. No
650	Infection prevention readiness (gown, sterile glove, apron, Google, mask, boot, disinfectant prepared (1 part Cl to 9 part H_2O solution + water and soap + clean water)	1. Yes 2. No
651	Other essential equipments readiness like Gauze, Uterotonic, Clean cloths, cord tie, Eye ointment, Vitamin k	1. Yes 2. No
652	Skilled birth attendant (SBA) preparedness	1. SBAs are prepared 2. SBAs not fully prepared 3. No SBA
653	Are rodents present anytime(during night or day time) animal like rat in the delivery room	1. Yes 2. No
654	Is there delivery registration book	1. Yes 2. No
655	Overall, how would you describe the state of the labour and delivery area?	1. Bad 2. Satisfactory 3. Excellent

	Part VII. Infection prevention items (Asking and Observation)		**Out of stock in the last 6 months**
701	Running water	1. Yes 2. No	
702	Soap	1. Yes 2. No	1. Yes 2. No
703	Antiseptics, e.g., Savalone	1. Yes 2. No	1. Yes 2. No
704	Sterile gloves	1. Yes 2. No	1. Yes 2. No
705	Non-sterile gloves	1. Yes 2. No	1. Yes 2. No
706	Non-sterile protective clothing (e.g., aprons/ Macintosh)	1. Yes 2. No	
707	Decontamination container	1. Yes 2. No	
708	Bleach or bleaching powder or fluid	1. Yes 2. No	1. Yes 2. No

709	Prepared disinfecting solution	1. Yes 2. No	
710	Covered contaminated waste bin	1. Yes 2. No	
711	Puncture-proof sharps containers (safety box)	1. Yes 2. No	1. Yes 2. No
712	Mayo stand (or equivalent for establishing sterile tray/field)	1. Yes 2. No	1. Yes 2. No
713	Alcohol	1. Yes 2. No	1. Yes 2. No
714	Iodine	1. Yes 2. No	1. Yes 2. No
715	Availability of delivery gown	1. Yes 2. No	
716	Availability of eye Google for delivery	1. Yes 2. No	
717	Availability of boot for delivery	1. Yes 2. No	
718	Availability of heave duty glove for delivery room	1. Yes 2. No	
719	Availability of tooth brush for delivery room	1. Yes 2. No	
720	Are there written guidelines for how to decontaminate equipment? IF YES, ASK: May I see them?	1. Yes, Observed 2. Yes, Reported, not seen 3. No	

Part VIII. BASIC EQUIPMENTS

Which of the following items are available and functional? *Be sure to **look** at each item; if the items are available and usable check for the adequacy*

801 Blood pressure apparatus (sphygmomanometer) 0. Not available
1. Available but not functional 1. Adequate
2. Available and functional 2. Inadequate

802 Stethoscope: 0. Not available
1. Available but not functional 1. Adequate
2. Available and functional 2. Inadequate

803 Infant weighing scale 0. Not available
1. Available but notfunctional 1. Adequate
2. Available and functional 2. Inadequate

804 Adult weighing scale 0. Not available
1. Available but not functional 1. Adequate
2. Available and functional 2. Inadequate

805 Fetal stethoscope (Fetoscop): 0. Not available
1. Available but not functional 1. Adequate
2. Available and functional 2. Inadequate

806 Clinical oral thermometer or axillary 0. Not available
1. Available but notfunctional 1. Adequate

			2. Available and functional 2. Inadequate
807	Protective clothing (aprons)	0. Not available	
			1. Available but not functional 1. Adequate
			2. Available and functional 2. Inadequate
808	Vacuum extractor	0. Not available	
			1. Available but not functional 1. Adequate
			2. Available and functional 2. Inadequate
809	Obstetric forceps	0. Not available	
			1. Available but not functional 1. Adequate
			2. Available and functional 2. Inadequate 810 Clock available in the delivery room to help complete the partograph
		0. Not available	1. Available but not functional 1. Adequate 2. Available and functional 2. Inadequate
811	Oxygen tank, tubing & face mask or nasal canula	0. Not available	1. Available but not functional 1. Adequate 2. Available and functional 2. Inadequate
812	Incubator or radiant warmer	0. Not available	1. Available but not functional 1. Adequate 2. Available and functional 2. Inadequate
813	Cup for expressed breast feeding	0. Not available	1. Available but not functional 1. Adequate 2. Available and functional 2. Inadequate
814	Manual vacuum aspiration (MVA) set	0. Not available	1. Available but not functional 1. Adequate 2. Available and functional 2. Inadequate
	Education materials		
	Which of the following IEC and/or Poster that shows procedures are available? *Be sure to **look** at each material to determine whether or not the following topics are covered or posted.*		
815	Hand washing practice flow chart	0. Not seen	1. Seen at this facility
816	Bimanual compression of Aorta flow chart	0. Not seen	1. Seen at this facility
817	NASG application flowchart	0. Not seen	1. Seen at this facility
818	MgSo4 administration protocol flow chart	0. Not seen	1. Seen at this facility
819	APGAR score flowchart	0. Not seen	1. Seen at this facility
820	Newborn resuscitation flow chart	0. Not seen	1. Seen at this facility
	Other specify		
	Part VIIII. CONSUMABLE SUPPLIES AND ESSENTIAL DRUGS AVAILABILITY		
	*For essential drugs and consumable supplies, be sure to **look** at each item, to see if it is available, is in good condition and has not expired.*		

	Consumable supplies		Out of stock in the last 6 months	
901	Disposable syringes and needles	0. Not available 1. Available but not functional(expired) 2. Available and functional	1. Yes 2. No	
902	Foley catheter & urine collection bags	0. Not available 1. Available but not functional 2. Available and functional	1. Yes 2. No	
903	IV set	0. Not available 1. Available but not functional 2. Available and functional	1. Yes 2. No	
904	IV Canula	0. Not available 1. Available but not functional 2. Available and functional	1. Yes 2. No	
905	Blank partograph	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
906	Cord ties	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
907	Blood transfusion sets	0. Not available 1. Available but not functional 2. Available and functional	1. Yes 2. No	
908	Sterile gauze or swabs	0. Not available 1. Available but not adequate 2. Available and adequate	1. Yes 2. No	
909	Catgut (suturing materials)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
910	HIV test kits	0. Not available 1. Available but not adequate 2. Available and adequate	1. Yes 2. No	
	Drugs (Anaesthetics, Analgesics)			
911	Atropine	0. Not available 1. Available but not usable	2. Available and usable	

912	Lidocaine 2% or other	0. Not available 1. Available but not usable 2. Available and usable
913	Pethidine	0. Not available 1. Available but not usable 2. Available and usable
914	Diclofenaci	0. Not available

		1. Available but not usable 2. Available and usable		
915	Paracetamol	0. Not available 1. Available but not usable 2. Available and usable		
	Drugs (Anti infective, anti hypertensive, supplement)		**Out of stock in the last 6 months**	
916	Ampicillin (capsules or injection)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
917	Metronidazole Iv	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
918	Ceftriaxone (injection) or ciprofloxacin (capsule)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
919	Gentamicin (injection)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
920	Tetracycline (ointment) or silver nitrate (eye drops) (for neonate)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
921	Vitamin K	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
922	Drug for HIV prevention and treatment Nevirapine (NVP), Efavirez (EFV)], Lamivudine (3TC)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
923	Dexamethasone	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	

924	Ferrous sulphate + folic acid (in combined form)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
925	Methyldopa or propranolol or any other antihypertensive	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
926	Hydralazine (injection)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
927	Diazepam (injection)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
928	Magnesium sulfate (injection)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
929	Calcium gluconate	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	

	Drugs (Vaccines and others)		**Out of stock in the last 6 months**	
930	Ergometrine (injection or tablets)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
931	Oxytocin (injection)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
932	Mesoprestol	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
	Drugs (Intravenous solutions)		**Out of stock in the last 6 months**	
932	Sterile water for injection (H_20)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	

933	Sodium chloride (Normal saline solution)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
934	Sodium lactate compound solution (Ringer‘s lactate)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
935	Glucose with sodium chloride (DNS)	0. Not available 1. Available but not usable 2. Available and usable	1. Yes 2. No	
936	Plain glucose solution (40% Glucose solution)	0. Not available 1. Available but not usable 2. Available and usable	*1. Yes 2. No*	

Part X. Document Review Guide for EmONC practice (Data extraction)

Instructions: The following data should be collected by looking at the facility's registers and records of previous 3 and 12 months (e.g., maternity ward registers, delivery book, general admissions register, OR register etc.)

No.	**Were the following services performed at least once in the last three months? (OBSERVE REGISTER)**	**Response**	**Skip**
R1	Parenteral antibiotics	1. Yes 2. No	
R2	Parenteral oxytocic	1. Yes 2. No	
R3	Parenteral sedatives/anticonvulsants	1. Yes 2. No	
R4	Manual removal of placenta	1. Yes 2. No	
R5	Removal of retained products (e.g., manual vacuum aspiration)	1. Yes 2. No	
R6	Assisted vaginal delivery (e.g., vacuum extraction, breech delivery)	1. Yes 2. No	
R7	Blood transfusion	1. Yes 2. No	
R8	Cesarean section	1. Yes 2. No	
R9	Current EmOC Status: (If yes to all questions R1-R8, the facility provides Comprehensive EmOC. If yes to R1-6, but no to R7 and/or R8, the facility provides Basic EmOC. If NO to any of questions R1-8, the facility is Non-EmOC.)	1. Comprehensive EmOC 2. Basic EmOC 3. Non-EmOC	
R10	In the 12 months, how many obstetric cases were referred: (2009E.C)	To this facility & treated? _____ From this facility referred? _____	

Thank you very much for your information and time!

Annexe.5:2 questionnaire for objective two

	Zone	Wereda	Kebele	Health facility
Name				
Code	**Obs_____**	**P_____**		
1	Cervical dilation at admission	_____cm		

Instructions: Observe provider giving care to women in labour and/or delivery room in a given facility			
Part I. Characteristic of healthcare professional			
101	Health provider category to be observed	1.Midwife BSc 2. Midwife diploma 3. Nurse BSc 4. Nurse diploma	5. Health Officer 6. Doctor 7. Student (MSc, MD) 8. Other_____
102	Sex of healthcare professional	1. Male	2. Female
103	Working experience (if student fill '0')	_____year	
104	Observation takes place during	1. Day time 2. Night time	1. Working day (Monday -Friday) 2. Weekend (Saturday & Sunday)

Part II. Care during labour and delivery				
105	The provider receives the women in labour in a cordial manner: observe women in labour and determine whether the healthcare professional (in the labour and delivery)	**Assessment**		
		Response		**Remark**
		Yes	**No**	
	1. Greets the woman and her companion (if present) in a cordial manner	1	2	
	2. Responds to her immediate needs (thirst, hunger, cold/hot, need to urinate, etc)	1	2	
106	The provider properly reviews and fills out the clinical history of the women in labour: observe whether the healthcare professional does the following (in labour room) or reviews intake record for proper recording of the following:			
	Ask the women the following information: (if she had ANC follow up; circle as 'YES' for question 1-7 below)	**Yes**	**No**	**Remark**
	1. Name	1	2	
	2. Age	1	2	
	3. Number of previous pregnancies/births	1	2	
	4. Any complications during labour and postpartum period	1	2	
	5. Other general medical problems	1	2	
	6. Use of medications	1	2	
	7. Her HIV status	1	2	
	8. Estimate gestational age using last menstrual period	1	2	
	Asks the woman about her labour	1	2	
	9. When the painful regular contractions began	1	2	
	10. How frequently they are occurring	1	2	
	11. If her membranes ruptured: when, what color and what smell it had	1	2	
	12. Whether she feels the baby's movements	1	2	
	13. Asks whether she has experienced vaginal bleeding, fever, severe headaches, blurred vision, convulsion, or if any other problems the client is concerned	1	2	
	14. Performs HIV test if status unknown	1	2	
	15. Records the information on clinical history chart	1	2	99. Not applicable
107	The provider properly prepare for the physical examination: determine whether the healthcare professional (in the labour and delivery rooms):	**Yes**	**No**	**Remark**
	1. Ensures privacy with screen or curtain to separate the women from others at least during examination	1	2	
	2. Washes hands with running water and soap for 10-15 seconds and dries with an individual clean towel or allows hands to air dry	1	2	
	3. Explain each step	1	2	
	4. At least one encourage the woman to ask questions	1	2	
	5. Respond to the woman/ companion questions politely and in respectful manner	1	2	
108	Determine whether the healthcare professional (in the labour and delivery rooms):	**Yes**	**No**	**Remark**

	1. Takes temperature	1	2	
	2. Takes pulse	1	2	
	3. Measures blood pressure	1	2	
	4. Determines respiratory rate	1	2	
	5. Measures fundal height	1	2	
	6. Determines foetal lie and presentation	1	2	
	7. Identifies degree of decent by abdominal palpation (from five to zero fingers above the pubis)	1	2	
	8. Evaluates uterine contractions (frequency and duration over a 10289 -minute period)	1	2	
	9. Auscultates foetal heart rate (FHR)	1	2	
	10. For HIV +ve client not on ART, gives ARV prophylaxis	1	2	
109	The provider properly conducts a vaginal examination: observe if the healthcare professional:	Yes	No	**Remark**
	1. Puts sterile gloves on both hands. (code 1 for sterile glove on one hand and 2 for sterile gloves on both hands----on REMARK)	1	2	_____
	2. Carefully inserts two fingers of the exam hand	1	2	
	3. Assess cervical examination	1	2	
	4. Assesses molding	1	2	
	5. Assesses station of presenting part	1	2	
	6. Assesses position	1	2	
	7. Gloves are removed after being immersed in 0.5% chlorine solution and placed in a leak-proof container	1	2	
	8. Records all information on the clinical records	1	2	
110	Use partograph to follow progress of labour	1	2-------**if No--skip to Q112**	
111	The provider uses the partograph to monitor labour: observe, whether the healthcare professional completes partograph consistently	**Yes**	**No**	**Remark**
	1. Records partograph information consistently	1	2	Remark , observe the record
	a. Records fetal heart rate every half hour (1. Yes ... 2. No)			
	b. Records maternal pulse rate every half hour (1. Yes ... 2. No)			
	c. Records strength and frequency of uterine contraction every 30min (1. Yes ... 2. No)			
	d. Records Blood pressure every four hours (1. Yes ... 2. No)			
	e. Records temperature every four hours (1. Yes ... 2. No)			
	f. Records vaginal examination every four hours (1. Yes ... 2. No)			
	g. Records fetal descent/station every four hours (1. Yes ... 2. No)			
	h. Records cervical dilatation and position every four hours (1. Yes ... 2. No)			
	i. At every vaginal examination checks amniotic fluids and status of membrane (1. Yes ... 2. No)			
	j. At every vaginal examination checks the degree of molding (1. Yes ... 2. No)			
	2. Records partograph information completely	1	2	
	a. Records client name, gravid and parity (1. Yes ... 2. No)			
	b. Date and time of admission (1. Yes ... 2. No)			
	c. Records time of rupture of membrane (1. Yes ... 2. No)			
	d. Records all drugs, IV fluids she is taking (1. Yes ... 2. No)			
112	The infection prevention practices during labour are performed according to standards: observe in the labour room if the healthcare professional	**Yes**	**No**	**Remark**
	1. Cleanse the vulva with antiseptic solution before performing vaginal examination	1	2	
	2. Uses sterile gloves when performing vaginal examination or when in contact with body fluids	1	2	
	3. Performs limited vaginal examination (e.g, every four hours or indicated)	1	2	
	4. Rupture of membranes is not performed routinely	1	2	

113	The provider prepares to assist the birth: observed whether the healthcare professional	**Yes**	**No**	**Remark**
	1. Prior to assembling the delivery material wash hands with soap and water and dry with individual towel or air dry .	1 1	2 2	
	2. Has the delivery pack and other essential material and ready to assist the delivery (delivery set, episiotomy set, newborn resuscitation set, glove, PPE)	1	2	
	3. Prior to delivery, washes hands with running water and soap and dries an individual clean towel or allows hands to air dry	1	2	
	4. Puts sterile double gloves on both hands			
114	Evidence based practice: observed whether the healthcare professional	**Yes**	**No**	**Remark**
	1. At least once encourage woman to walk around	1	2	
	2. At least once encourage the woman to change position according to the desire and comfort	1 1	2 2	
	3. At least once encourage the woman to take light food or drink fluid in labour	1	2	
	4. Allow the woman to have her preference companion at labour room	1	2	
	5. Provide emotional support to woman during labour and delivery	1	2	
	6. At least once encourages her to empty her bladder	1	2	
	7. Perform episiotomy based on the indicator	1	2	
	8. Tear present and sutured	1	2	
	9. Use local anesthesia for performing episiotomy and tear suture	1	2	
115	The provider properly assists with the delivery of the baby: determine whether the healthcare professional:	**Yes**	**No**	**Remark**
	14. Holds the baby by the trunk and places the baby on a clean dry towel on the mother's abdomen	1	2	
	15. Dries baby vigorously and changes wet towel for a clean dry one	1	2	
	16. Ties or clamps cord when pulsations stop, or by 2-3 minutes after birth (no immediately after birth)	1	2	
	17. Cuts/clamps the umbilical cord using sterile scissors under gauze to prevent blood splashing	1	2	
	18. If the baby is breathing normally, passes the baby to mother for skin-to-skin contact on breast	1	2	
	19. If the baby does not begin breathing with difficulty, initiates resuscitation 20. Note the time of birth and records on partograph	1	2	
		1	2	99. Not applicable
116	The provider properly performs active management of third stage of labour: observe whether the healthcare professional	**Yes**	**No**	**Remark**

	7 Palpate the mother's abdomen to rule-out the presence of a second baby	1	2	
	8 Tells the woman that she will receive an injection and administers 10 IU of oxytocin IM within 1 minute of delivery	1	2	
	9 Upon contraction, applies control cord traction , until the placenta is expelled	1	2	
	10 If this maneuver does not provide immediate results, stops applying traction, holding the cord and clamp until the next contraction	1	2-----	99.Not applicable
	11 Repeats control cord traction during contraction while simultaneously applying counter traction above pubis to guard uterus	1	2-----	99.Not applicable
	12 With both hands, assists in the expulsion of the placenta by turning it over in the hands without applying traction twisting the membranes	1	2	
	13 Massage the uterus with one hand one sterile cloth over the abdomen until it contracts firmly.	1	2	
	14 Checks to see whether the placenta is complete (maternal and foetal sides, plus membranes, lobs	1	2	
117	The provider adequately performs immediate postpartum care within one hour after birth: determine whether the healthcare professional	**Yes**	**No**	**Remark**
	1. Make sure that the woman is comfortable (clean, hydrated and warmly covered) 2. Ensures that the baby is well covered, 3. For HIV exposed infants, administers ARTs as per protocol 4. Mother and newborn kept in same room after delivery (rooming-in) 5. Observe breast feeding initiated within the first hour after birth 6. Provides tetracycline eye ointment 1% prophylaxis to newborn 7. Administer vitamin K to newborn 8. Weight the baby 9. Identifies the baby 10. Explains to mother importance of delayed bathing and not to apply anything to the skin or cord	1 1 1 1 1 1 1 1 1 1	2 2 2------ 2 2 2 2 2 2 2	99. Not applicable
118	The provider properly disposes of the used instruments and medical waste after assisting birth: determine whether the healthcare professional	**Yes**	**No**	**Remark**
	1. Discards the placenta in a leak-proof container with a plastic liner 2. Disposes of medical waste (gauze, etc) in a plastic container with a plastic liner 3. Puts the soiled linen in a leak-proof container 4. Places all reusable instruments in a 0.5% chlorine solution for 10 minutes 5. Disposes needle and siring in a puncture-resistance container, without removing, recapping or breaking the needle 6. Gloves are removed after being immersed in 0.5% chlorine solution and placed in a leak-proof container 7. Washes hands with running water and soap and dries with an individual clean towel or allows hands to air dry	1 1 1 1 1 1 1	2 2 2 2 2 2 2	
119	The provider closely monitors the women and newborn after birth Monitors the woman appropriately postpartum, checking at least once:	**Yes**	**No**	**Remarks**

	1. Uterine contraction	1	2	
	2. Vaginal bleeding	1	2	
	3. Bladder distension	1	2	
	4. Blood pressure	1	2	
	5. Pulse	1	2	
	6. Consciousness	1	2	
	7. Baby's breathing condition and breastfeeding	1	2	
	8. Assists the woman with breastfeeding	1	2	
	9. Asks the woman if she has urinated and encourages her to do so whenever she wishes	1	2	
	10. Encourages the woman to eat and drink	1	2	
	11. Records the information on the women's clinical record and reports any abnormalities	1	2	

120	Duration of labour and delivery	**Response**
	1. Total duration of 1st stage of labour	_____hour
	2. Total duration of 2nd stage of labour	_____minute
	3. Total duration of 3rd stage of labour	_____minute
121	Complication during childbirth	
	1. Complication after admission to mother present	1. Yes 2. No --------skip to '3'of Q121
	2. Type of complication	_____
	3. Complication after admission to newborn present	1. Yes 2. No----------skip to Q122
	4. Type of complication	_____
122	Partograph filled after delivery takes place	1. Yes 2. No

Thank you very much for your cooperation!

Annexe 5: 3 questionnaire for objective three

Tools for Facility based survey to measure maternal satisfaction exit interview

የወለዱእናቶችከሆስፒታልከመውጣታቸውበፊትሊነበብላቸውይገባል

እደምንአደሩ/እደምንዋሉ. ስሜ ------

የዚህጥናትአላማ፡-

ይህጥናትበአማራክልልባሉሆስፒታሎችየሚሰጠውንየወሊድአገልግሎትጥራትለመዳሰስሲሆን፤፤የዘህመ
ወያያመምሪያዋነኛአላማውደግሞእናቶችበሆስፒታልስለሚሰጠውየወሊድአገልግሎትጥራትያላቸውንል
ምድ፣ግንዛቤእናተሞክሮለመዳሰስይሆንል

. አካሄድ፡-ይህንመረጃለመሰብሰብእርሰዋንየጥናቱአካልበማድረግጠርተናል . ፈቃደኛከሆኑ .
መጀመራያህሳቡንልትረዱትእናየስምምነትውልልትሰጡኝይገባል፤፤ፈቃደኛከሆኑበዚህሆስፒታልስላገኙ
ትየወሊድአገልግሎትአንጠይቃችሆለን፤፤ለዚህጥናትመረጃበመስጠትበመሳተፈዋትየሚደርስበዋጉዳትሰ
አተወንከመሻማት(10-20 ደቂቃ) በስተቀርምንምጉዳትየለም

.
ጥቅምንበተመለከተበዚህጥናትበመሳተፈወትመንምአይነትክፈያየለውምይሁንእንጂለወደፊትበቀትታም
ሆነበተዘዋዋሪእርሰዋምሆነ፣ቤተሰበዋትአልፎምማህበረሰቡየወሊድአገልግሎትተጠቃሚእደመሆናችሁ
መጠንተጠቃምትሆናላችሁ

.
ሚስጥርነቱየተጠበቀነው፡-

ለዚህጥናትየሚሰጡንመረጃሚስጥርነቱበአስተማማኝሁኔታየተጠበቀነው፤፤ይህምመረጃመስጫውቅጽስ
መወትአይገለጽምበፈንታውመለያምልክትበመስጠትነውየምንጠቀመውእንዲሁምየተሰበሰበውመረጃበቁ
ልፍታሽነበመቀመጥከዋንውተመራማሪበስተቀርማንምሊጠቀምበት/ ሊያየውአይችልም፤፤

የተሳታፊውመብት፡-

እርሰዋበማንኛውምሰአትመረጃለመስጠትየማቆረጥመብተወትየተጠበቀነው፤በማቆረጠወትምማንምሊጎ
ዳዋትአይችልም፤፤እንዲሁምሁሉንመጠይቅየመመለስግዶታየለበወትምበሙልእረፍትእወሰዱየመመለስ
መብተወምየተጠበቀነው

ተጠሪ፡-

ማንኘማውንምተጨማሪስለምርምሩመረጃቢያስፈልገወትከዚሁቢታችስማቸውየተጠቀሰውንሰውማንገር
ይችላሉ ሲ/ርኤሌኒኤድማሱስልክቁጥር 0918772775

, E-mail: eleniam16@gmail.com

መመሪያ:ለተጠየቁትጥያቄዎችየተመለሱትንአማራጭክበብእንዲሁምበጽሁፍየሚመለስትንበተቀመጠ
ውቦታበመጻፍአስቀምጡ

የስምምነትቅጽ አሁንእሚጠይቁኝነገርአለዋትስለጥንቱ
መጀመርእችላለሁ

2. ተስማምቻለሁ ---------- መቀጠልይቻላልአልስማማም ------- አቁም

መረጃሰብሳቢስም : _____ ፊርማ _____ ቀን _____

የተቆጣጣሪስም _____ ፊርማ _____ ቀን _____

ዞን	ቀረዳ	ቀበሌ	የሆስፒታሉስም	
ስም				
መለያ	ማዋለጃ_____	ድሁረወሊድ_____ _____		

ክፍልአንድI: ማህበራዊናስነ- ህዝብመረጃ.			
መለያ	መጠይቅ	መልስ	ዚለለው
Q101	እድሚሽ/ዎትበዓመትስንትነው?	_____ዓመት	
Q102	የመኖሪያቦታ	1. ገጠር 2. ከተማ	
Q103	ሀይማኖት	1. ዖርቶዶክስ 4. ካቶሊክ 2. ሙስሊም 5. ሌላካለይገለጽ_____ 3. ፕሮቴስታንት	
Q104	ብሔር	1. አማራ 2.አገው 3. ትግሬ 4. ሌላካለይገለጽ_____	
Q105	የጋብቻሁኔታ	1. ያላገባች 4. የፈታች 2. ያገባች 5. ሌላካለይገለጽ_____ 3. የሞተባት	
Q106	የትምህርትሁኔታ	1. ማንበብእናመጻፍየማይችሉ4. 9-12ክፍል 2. ማንበብእናመጻፍየሚችሉ 5. ኮሌጂ/ዩኒቨርስቲየደረሱ. 3. 1-8 ክፍል	
Q107	የስራሁኔታ	1. ተማሪ6. የቀንሰራተኛ 2. የግልስራ7. ገበሬ 3. የመንግስትተቀጣሪ8. ሌላካለይገለጽ_____ 4. መንግስታዊያልሆነተቀጣሪ 5. የቤትእመቤት	
Q108	ያንች/የርሰዎየወርገቢበአማካኝስንትነው	_____ የኢትዮጵያብር	
Q109	የቤተሰቡየወርገቢበአማካኝስንትነው	_____ የኢትዮጵያብር	
ክፍል -ሁለት: ስነተዋልዶንየተመለከተመረጃ			
Q201	ለመጀመሪያጊዜባልሲያገቡእድሜዎስንትነበር	_____ዓመት	
Q202	ምንያክልእርግዚናነበረዎ	----------	
Q203	የመጀመሪያልጂዎንሲወልዱእድሜዎስንትነበር	_____ዓመት	
Q204	በሂወትየወለዶቸውልጆችቁጥርስንትነው		
Q205	አሁንበሂዎትስንትልጆችአሉዎት		
Q206	ከአምስትዓመትበታችያሉልጆችቁጥርስንትነው		

Q207	የቤተሰብቁትር		
Q208	ውርጃኑሮዎያውቃል	1. አዎ 2. የለም…መልሱየለምከሆነወደ	Q210
Q209	አዎካሉምንያክልጊዜ	_____	
Q210	ወደፍትተጨማሪልጂእዲኖረዎትይፈልጋሉ	1. አዎ 2. የለም…መልሱየለምከሆነወደ	Q212
Q211	አዎካሉምንያክል 294	_____	
Q212	በሂዎተወልጂሞቶበወትያውቃል	1. አዎ 2. የለም…መልሱየለምከሆነወደ	Q214
Q213	አዎካሉምንያክል	_____	
Q214	በጤናተቆምክዚህልጂበፊትወልደውያውቃሉ	1. አዎ2. የለም 3. የመጀመሪያእርግዚና	
Q215	አዎካሉስንትእረገዝና	_____	
	ክፍልሦስት. የአሁኑንእርግዚናየተመለከተመጠይቅ		
Q301	ይህስንተኛዕርግዝናዎነው?	1. አዎ 2. የለም	
Q302	እርግዚናውየታቀደነበር?		
Q303	አሁንለተወለደውልጂየእርግዚናክትትልነበረዎ?	1. አዎ 2. የለም	
Q304	አዎካሉምንያክልጊዜተከታትለውነበር?	_____	
Q305	የእርግዝናክትትልያደረጉትየትኛውጤናተቆምነበር	1. ጤናጣቢያ 2. ሆስፒታል	
Q306	በየተኛውመንገድነውልጅየተገላገሉት	1በተፈጥሮአዊመንገድ 2.በመሳሪያየተደገፈበተፈጥሮአዊመንገድ 3. በቀዶሕክምና	
307	ወደእዚህጤናተቋምእንዴትመጡ	1.ከዚህበፊትበዚህተቋምአገልግሎትካገኙእናቶችበመስ ማት 2. በራሴምርጫ 3. ከጤናጣቢያሪፈርተደርጌ 4. ከሌላየመንግስትሆስፒታልሪፈርተደርጌ 5. ከግልየህክምናተቋምሪፈርተደርጌ	

308	ወደእዚህጤናተቋምበምንአይነትትራንስፖርትመጡ?	**1**.በአንቡላንስ 2.በግልትራንስፖርት	

	ክፍል ***4*** እንቶችን በሆስፒታሉ ስላገኙት የወሊድ አገልግሎት ያላቸውን እርካታ የሚዳስስ መተይቅ		
	የሠራተኞችአቀባበልእናአግባቦት/ኮሚኒኬሽን		
Q401	የጤናተቋሙየአቀባበልሥርዐትከመግቢያውጀምሮመ ልካምነበር?	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q402	በወሊድወቅትለነበሩኝጥያቄዎችባለሞያዎቹአዳምጠው በቂማብራሪያሰተውኛል	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q403	በምጥእናበወሊድወቅትለሚደረግልኝሕክምናጥቅምና ጉዳትየጤናባለሞያዎቹማብራሪያሰጥተውኝፈቅጀናተ ስማምቼግልጋሎቱንአግኝቻለሁ	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q404	በወሊድጊዜየጤናባለሞያዎቹበአከብሮትአስተናግደው ኛል	1. 1በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q405	ከወሊድበኋላስለጡትአጠባብ፣ክትባት፣የወሊድመከላከ ያእናሌሎችምክሮችንከጤናባለሞያዎቹተነግሮኛል	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	

Q406	በወሊድወቅትጤናባለሙያዎቹእራሳቸውንበአግባቡአስ ተዋውቀውኛል	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
	<u>የከፍሎችእናየአገልግሎትአሰጣጥምቹነት</u>		
Q501	ከመግቢያውጀምሮየማዋለጃክፍልንለማግኘትእናወደክ ፍሉለመጓጓዝአልተቸገርኩም	1. 1በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q502	በማዋለጃክፍሉየዕጅ፣የገላመታጠቢያናየመፀዳጃአገልግ ሎቶችማግኘትችያለሁ	1. 1በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ	

		5. በጣምእስማማለሁ	
Q503	የማዋለጃክፍሉአጠቃላይየንጽህናሁኔታጥሩነበር	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q504	በምጥናበወሊድምርመራወቅትአገልግሎትሳገኝየነበረ ውከፈቀድኩትሰውውጪሳይገባናበተከለለቦታነበር	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q505	በምጥእናበወሊድወቅትእንድንቀሳቀስናበተመቸኝእናበ ፈለኩትየወሊድአካኋን (ተኝቼ፣ቆሜ፣ተቀምጬ፣ወዘተ…) እንድሆንተፈቅዶልኝነበር	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q506	በምጥ እና በወሊድ ወቅት የቤተሰብ አባል ከጎኔ እንዲሆን ተፈቅዶልኛል	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	

Q507	በወሊድ እና ከወሊድ በኋላ ህመም በሚሰማኝ ወቅት የሕመም ማስታገሻ እርዳታ ተሰጥቶኛል	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
	አገልግሎት አሰጣጥ		
Q601	ሆስፒታል ገብቼ ካርድ እንዳወጣ ሳልጠየቅ ቀጥታ ወደ ማዋለጃ ክፍል በመሄድ አገልግሎት አግኝቻለሁ	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q602	ጤና ተቋሙ ቅጥር ግቢ ለወሊድ ከገባሁ በኋላ በባለሙያ በፍጥነት ታይቻለሁ	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q603	ጤና ተቋም ቅጥር ግቢ ከገባሁ በኋላ አልጋ በፍጥነት አግንቻለሁ	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q604	በጤና ተቋሙ ቆይታዬ የታዘዘልኝን የላቦራቶሪ፣ የራጅ እና አልትራ ሳውንድ ምርመራዎች በተቋሙ	1. በጣምአልስማማም 2. አልስማማም	
	አግኝቻለሁ	3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q605	በጤና ተቋሙ ቆይታዬ የታዘዘልኝን መድሀኒት እና ሌሎች የህክምና መገልገያ ግበአቶች (ጓንት፣...) በተቋሙ አግኝቻለሁ	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
	የአገልግሎት ወጪ		
Q701	በጤና ተቋሙ ቆይታዎ ወቅት የአገልግሎት ክፍያ ተጠይቀው ነበር	1. አዎ 2. አልተጠየኩም	ወደ Q704 ይለፉ

Q702	ክፍያው ተመጣጣኝ ነው	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q703	ክፍያ ከፈፀሙ ክፍያው የፈጸሙበት ምክንያት ይግለፁ	----------	
	<u>ማጠቃለያ መጠይቅ</u>		
Q704	በዚህ ጤና ተቋም ቤተሰቤ ወይም ጓደኛዬ መጥተው የወሊድ አገልግሎት እንዲያገኙ እመክራሉ	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	
Q705	በዚህ ጤና ተቋም አገልግሎት አሰጣጥ በአጠቃላይ ረክቻለሁ	1. በጣምአልስማማም 2. አልስማማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣምእስማማለሁ	

ጨርሻለሁ ጊዜሽን እና ሀሳብሽን ስላካፈልሽኝ እጂግ አድርጌ አመሰጋንሻለሁ፡፡

6 Annexe 6: Interview guide forindepth interview (Amharic version)

Annexe 6:1 ስለወ ሊ ድ አገል ግ ሎ ት ጥረትን በተመ ለገተ ከ እናቶች ጋር የሚ ደረግ ው ይ ይትመ መ ሪያ

የወለዱ እናቶች ከሆስፒታል ከመውጣታቸው በፊት ሊነበብላቸው ይገባል እደምን አደሩ/እደምን ዋሉ. ስሜ ------

የዚህ ጥናት አላማ፡-ይህ ጥናት በአማራክልል ባሉ ሆስፒታሎች የሚሰጠውን የወሊድ አገልግሎት ጥራት ለመዳሰስ ሲሆን ፤፤ የዘህ መወያያ መምሪያ ዋነኛ አላማው ደግሞ እናቶች በሆስፒታል ስለሚሰጠው የወሊድ አገልግሎት ጥራት ያላቸውን ልምድ ፣ግንዛቤ እና ተሞክሮ ለመዳሰስ ይሆንል

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አካሄድ ፡-ይህን መረጃ ለመሰብሰብ እናንተን ጠርተናል . ፈቃደኛ ከሆናችሁ . መጀመሪያ ሀሳቡን ልትረዱት እና የስምምነት ውል ልትሰጡን ይገባል . በዚህ ሆስፒታል ስላገኛችሁት የወሊድ አገልግሎት አንዳንድ ጥያቄወችን

ስለምንይቃችሁ።። ለዚህ ጥናት መረጃ በመስጠት በመሳተፋችሁ የሚደርስባችሁ ጉዳት ሰአታችሁን ከመሻማት(አንድ ሰአት) በስተቀር ምንም ጉዳት የለም ፤፤

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ጥቅምን በተመለከተ በዚህ ጥናት በመሳተፋችሁ መንም አይነት ክፈያ የለውም ይሁን እንጂ ለወደፊት በቀትታም ሆነ በተዘዋዋሪ እርሰዋም ሆነ ፣ቤተሰበዋት አልፎም ማህበረሰቡ የወሊድ አገልግሎት ተጠቃሚ እደመሆናችሁ ምን ተጠቃም ትሆናላችሁ

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ሚስጥርነቱ የተጠበቀ ነው ፡- ለዚህ ጥናት የሚሰጡን መረጃ ሚስጥርነቱ በአስተማማኝ ሁኔታ የተጠበቀ ነው ፤፤ይህም መረጃ መስጫው ቅጽ ስመወት አይገለጽም እንዲሁም የተሰበሰበው መረጃ በቁልፍ ታሽጎ በመቀመጥ ከዋንው ተመራማሪ በስተቀር ሊጠቀምበት አይችልም ፤፤

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የተሳታፊው መብት ፡- እርሰዋ በማንኛውም ሰአት መረጃ ለመስጠት የማቆረጥ መብተወት የተጠበቀ ነው ተጠሪ ፡- ማንኘማውንም ተጨማሪ ስለምርምሩ መረጃ ቢያስፈልገወት ከዚሁበታች ስማቸው የተጠቀሰውን ሰው ማንገር ይችላሉ ሲ/ር እሌኒ አድማሱ ስልክ ቁ ጥር 0918772775

, E-mail: eleniam16@gmail.com

የስምምነት ቅጽ

አሁን እምትጠይቂኝ ነገር አለሽ ስለጥንቱ
መጀመር እችላለሁ

3. ተስማምቻለሁ ---------- መቀጠል ይቻላል
4. አልስማማም ------- አቁም

1. በዚህ ሆስፒታል የሚሰጠውን የወሊድ አገልግሎት ጥራት እዴት ያዩታል

(የደበኛ ልየታ እና ሰምሪት ሰርአት፣ የሰው ሀይል፣ የህክምና መገልገያ መሳሪያ እና

የመድሀኒት አቅርቦት በተመለከተ)የወሊድ አገልግሎቱን ጥራት በተመለከተ ምን

ጉድለት (ክፍተት) አያችሁ በራሳቸው ትርጉም እዲያብርሩ እርዶቸው

2. የጤና ባለሙያዋች እንዲሁም የሆስፒታሉ ሰራተኞች ለተገልጋዩቹ /ለታካሚወቹ የሚያደርጉት አቀባበል/ህክምና እዲት ነው /ምን ይመስላል ተቀባይነት ያለው፣ አክብሮት የተሞላበት፣አደድሎዊ ያልሆነ፤

3. የጤና ባለሙያዋች አመለካከት ለወሊድ አገልግሎት ለምትመጣው እናት እና ተከትለዋት ለሚመጡት ቤተሰቦች ምን ያመስላል /እዲትስ ያዩታል

(ፍቅር የተሞላበት፣አክብሮት ያለው ፣ ሀላፊነት የተሞላበት፤ሀሳባችሁን የዳምጡችሆል(ለመግለጽ እድል ይሰጡችሆል)

4,ከዚህሆስፒታልየወሊድአገልግሎትባገኙጊዜየገጠመወትችግርምንነበርጥራቱንበተመለከተ

(ሀሳባቹውንበደንብአዳምጡቹውኢታቁርጡቹውእንዲሁምአክብሮትበተሞላበትይሁን)

5. የዚህን ሆስፒታል የወሊድ አገልግሎት ጥራት ለማሻሻል ምን ቢደረግ ይሻላል ብለው ያስባሉ (የናቶች ፍላጎት በሆስፒታሉ ሊደረግላት የሚችለው ፣የጤና ባለሙያውን አይነት በተመለከተ፣ የእናቶች/የማህበረሰቡ ልምድና ባህል በምጥና በወሊድ ጊዜ ምን ይመስላል)

Annexe 6:2 In-depth interview g guides for healthcare professional (Amharic version)

ስለወሊድ አገልግሎት ጥረትን በተመለገተ ከተመረጡ የጠየና ባለሙያዋቸ ጋር የሚደረግ ውይይት መመሪያ

የስምምነት ውል

መረጃውን ለሚሰጡ ባለሙያዋች ሊነበብላቸው
ይገባል እደምን አደሩ/እደምን ዋሉ. ስሜ ------

የዚህ ጥናት አላማ፡-ይህ ጥናት በአማራክልል ባሉ እና በተመረጡ ሆስፒታሎች የሚሰጠውን የወሊድ አገልግሎት ጥራት ለመዳሰስ ሲሆን ፤፤ የዚህ መወያያ መምሪያ ዋነኛ አላማው ደግሞ የጤና ባለሙያዋች በሆስፒታል ስለሚሰጠው የወሊድ አገልግሎት ጥራት ያላቸውን ልምድ ፣ግንዛቤ እና ተሞክሮ ለመዳሰስ ነው

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አካሄድ ፡-ይህን መረጃ ለመሰብሰብ እናንተን ጠርተናል . ፈቃደኛ ከሆናችሁ . መጀመሪያ ሀሳቡን ልትረዱት እና የስምምነት ውል ልትሰጡን ይገባል . በዚህ ሆስፒታል ስለሚሰጠው/ ስለምትሰጡት የወሊድ አገልግሎት ጥራቱን በተመለከተ አንዳነድ ጥያቄወችን ስለምንጠይቃችሁ፡፡ ለዚህ ጥናት መረጃ በመስጠት በመሳተፋችሁ የሚደርስባችሁ ጉዳት ሰአታችሁን ከመሻማት(አንድ ሰአት) በስተቀር ምንም ጉዳት የለም ፤፤

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ጥቅምን በተመለከተ በዚህ ጥናት በመሳተፋችሁ መንም አይነት ክፈያ የለውም ይሁን እንጂ ለወደፊት በቀትታም ሆነ በተዘዋዋሪ እርሰዋም ሆነ ፣ቤተሰበዋት አልፎም ማህበረሰቡ የወሊድ አገልግሎት ተጠቃሚ እደመሆናችሁ መጠን ተጠቃም ትሆናላችሁ ብለን እናስባለን፡፡ .ሚስጥርነቱ የተጠበቀ ነው ፡- ለዚህ ጥናት የሚሰጡን መረጃ ሚስጥርነቱ በአስተማማኝ ሁኔታ የተጠበቀ ነው ፤፤ይህም መረጃ መስጫው ቅጽ ስመወት አይገለጽም እንዲሁም የተሰበሰበው መረጃ በቁልፍ ታሽጎ በመቀመጥ ከዋንው ተመራማሪ በስተቀር ሊጠቀምበት አይችልም

የተሳታፊው መብት ፡- እርሰዋ በማንኛውም ሰአት መረጃ ለመስጠት የማቆረጥ መብተወት የተጠበቀ ነው

ተጠሪ ፡- ማንኘማውንም ተጨማሪ ስለምርምሩ መረጃ ቢያስፈልገወት ከዚሁቡታች ስማቸው የተጠቀሰውን ሰው ማናገር ይችላሉ ሲ/ር አሌኒ አድማሱ ስልክ ቁ ጥር 0918772775

, E-mail: eleniam16@gmail.com

የስምምነት ቅጽ

አሁን እሚጠይቂኝ ነገር አለዋት ስለጥናቱ
መጀመር እችላለሁ

1. ተስማምቻለሁ ---------- መቀጠል ይቻላል
2. አልስማማም ------- አቁም

ስለወሊድ አገልግሎት ጥረትን በተመለገተ ከተመረጡ ጤናባለሙያዋች ጋር የሚደረግ ውይይት መመሪያ

1-በዚህሆስፒታልየሚሰጠውንየወሊድአገልግሎትጥራትእዴትያዩታል

(የደበኛልየታእናሰምሪትሰርአት፣የሰውሀይል፣የህክምናመገልገያመሳሪያእናየመድሀኒትአቅርቦትበተመለከተ)

2-የጤናባለሙያውየወሊድገልግሎትተጠቃሚእናቶችን(የደንበኛ) አያያዛቸውእዴትነው

3-የጤናባለሙያውለእናቶች(ለተገልጋዪች) ያላቸውአመለካከትምንያመስላል

4-ጥርቱንየጠበቀአገልግሎትለመስጠትበሆስፒታሉየገጠማችሁችግርምድንነው

5-ለነበረውችግርምንማስተካከያወሰዳችሁ

6-የሆስፒታሉንየወሊድአገልግሎትጥራትለምሻሻልምንቢሆንይሻላልትላለህ

Annexe 6:3 in-depth terview guides for healthcare professional (English 1. Version)

1-How is the quality of delivery service in the facility?

Probe (Triage system, human resource, material and drug supply)

2-What are the quality gaps you have observed in your facility?

3-How can the quality of institutional delivery in the hospital be improved?

4-How did health workers/staffs treat the patient/Client?

5-How was the attitude of staff for the clients?

6-What are the challenges faced in the hospital in terms of the quality service?

7- What Measures did you take for the challenges?

8-What are your recommendations for improving quality of care

7 Annexe 7: data collection facilitation guide

Annexe 7:1: data collection facilitation guide

Guides for data collection facilitators for the cross-sectional part of the survey

1. Concerned officials will be contacted and official letters and ethical clearance from university of South Africa (UNISA) and Amhara regional Health Bearou will be submitted to the selected facilities/Hospitals. Make sure that the facility has consented to the conduct of the study and the consented later submitted to the obstetric maternity ward head.
2. **Sampling and sample allocation**
   First, meet the concerned body /head of the facilities and took the number of healthcare professionals working in the labour ward, and communicate with the head of the maternity ward to arrange the shift of the healthcare professionals that convenient for observation data collection. Since each provider should be wait until the labour managed completely
3. **Data collection procedure**
   - The data collectors will have an adequate number of the unfilled questionnaire and the consented/permission latter of the maternity ward should be at hand before starting the survey.
   - The data collectors will have prepared lunch and water in his/her bag since he/she did not interrupt the data collection before the lab our and delivery intervention is completed and also it the labour and delivery continue to night the data collectors ready to their tonight.
   - Have contacts of maternity ward head /meatren to figure out the working schedules/duty time of selected healthcare professionals.
   - Negotiate with healthcare professionals so that they will inform healthcare professionals about the research and make sure that healthcare professionals are in their mothers during the data collection until the labour, delivery, and immediate postpartum care is completed even the working time or duty time is off.
   - The data collectors will explain the purpose of the study for both the mother and healthcare professional who attend the lab our and delivery and inform

the data collectors did not interfere whatever the healthcare professionals take any action or intervention during labour and delivery management(none participatory observation).

- The data collectors should be collecting the data three times for each provider while managing labour, delivery, and immediate postpartum period and also give code for each filled questionnaire sequentially.
- Verbal consent will be obtained from both the mother and healthcare professionals before starting data collection .both mothers and healthcare professionals have the right to decline from participating in the study and those who wanted to participate in the study will be appreciated.
- After verbal/written consent is obtained the data collector start data collection
- Data collectors proceed with the data collection/ observation only who confirmed that the labouring mother is in the first stage of the labour by reviewing/observing the mother's chart. Particularly observe cervical dilatation.
- After starting data collection/ observation If the labour and delivery end up by cesarean section the data collectors discarded the filled questionnaire and again start data collection by other labouring mothers by informing the healthcare professionals if the second stage is managed by C/s it is not valid for the researcher and we need observation of second stage lab our management of the healthcare professional skills.

4. **Completed questionnaire handling**
    - Pack each provider completed questionnaire by stapling after coding sequentially. And make sure to three questionnaire fill for each provider.
    - The completed questionnaire and consent form gives to the supervisor daily.
5. **Keep daily notes of what happened during the whole process of sampling and data collection and what measure is taken.**
6. **After completing the data collection the data collector should forward a thank you message to the healthcare professionals and mothers who participated in the data collection and overall hospital officers who participated in the process of the data collection for this research.**

Annexe 7:2: Demographic intake sheet for indepth –interview

This form should be filled before the key informant interview

Facility Code--------Participant Code ----------

For Health provider

1. Sex--------

2. Age------ 3. Profession------

4. Work experience-----

5. Current position---------

For Mothers

1. Age------- 2.

Education------ 3.

Occupation-------

4. Number of parity-----

For family members (A companion)

1. Sex------ 2. Age--

----- 3. Education---

--- 4. Occupation---

5. Relationship with labouring mothers -------

ማህበራዊ መረጃ ቅጽ ይህ ቅጽ ከቃለ መጠይቁ በፊት መሞላት አለበት

ሆስፒታል ኮድ 02 የተሳታፊ መለያ ኮድ 001

የጤና ባለሙያውን በተመለከተ

1. ዕድሜ 27(ወንድ)
2. እድሜ 27
3. የትምህርት ደረጃ BSC midwifery
4. የሙያ አይነት midwife
5. የአገልግሎት ዘመን 4 years
6. አሁን ያሉበት ሀላፊነት MCH cordinater
7. ማህበራዊ መረጃ ቅጽ ይህ ቅጽ ከቃለ መጠይቁ በፊት መሞላት አለበት

የተሳታፊ መለያ ኮድ 001

እናቶችን በተመለከተ

1. እድሜ 28
2. የትምህርት ደረጃ 5ኛ ክፍል
3. የስራ ሁኔታ የቤት እመቤት (House wife)
4. አጠቃላይ የወሊድ ብዛት 3

ማህበራዊ መረጃ ቅጽ ይህ ቅጽ ከቃለ መጠይቁ በፊት መሞላት አለበት

የተሳታፊ መለያ ኮድ 301

የቤተሰብ አባል ወላጁን ለማገዝ ተከትሎ የመጣ በተመለከተ /Accompanies/

1. ዕድሜ 35 (ወንድ)
2. እድሜ 30
3. ትምህርት ደረጃ 8ኛ ክፍል
4. የስራ ሁኔታ ገበሬ
5. ዘምድና(ከወላጁ ጋር ያለው ግንኙነት) ባል (husband)

8 Annexe 8: Information sheet

Facility number 0 2 Questionnaire code 0 5 1

Data collection Tools for Observation of childbirth care process while skilled birth attendant give care

Information sheet

Read the statements to the care provider and laboring mother/relative

Purpose of the research project: This study is one part of evaluating quality skilled maternal service in Amhara.

The main aim of this particular tool is to measure adherence of health care provider to standard care during child birth process for those who are working at maternity unit.

Procedure: In order to collect our data, we invite you to take part in our project. If you are willing, you need to understand and sign the consent form.

Risk: By participating in this research project you may feel some discomfort especially on sacrifice your time otherwise no risk in participating in this study.

Benefits: If you are participating in this research project, the output of the study will have both direct and indirect benefit to you, as you and your families will use the services in the future.

Incentives/payments for participating: You will not be provided any incentives or payment to take part in this study.

Confidentiality: The information collected from this research project will kept confidential and information about you that will be collected by this study will be stored in a file, without your name, but a code number assigned to it. And it will not be revealed to anyone except the principal investigator and will be kept locked with key.

Right to refusal or withdraw: You have the full right to refuse from participating in this research and also you can interrupt at any time.

Person to contact: If you want to know more information you can contact;
S/r Eleni Admassu Mobil number: +251-09-18-77-27-75, E-mail: eleniam16@gmail.com

Consent form (for both provider and laboring mother or companion)
With due understanding of the aforementioned information, are you willing to participate in the study?

☐ ☐ 1. Yes ---------continue ✓ ☐ ☐ 2. No -------End

Interviewer: Name Sr Hirute Signature [signature] date June 20/2015
Supervisors: Name Ato Atenaw Signature [signature] date

	Zone	Wereda	Kebele	Health facility
Name	South Gonder	Estie	02	Estie Primary Hospital
Code	Obs	P		

1	Cervical dilation at admission	4 cm

1

9 Annexe 9: permission lattera

በአማራ ብሔራዊ ክልላዊ መንግስት ጤና ጥበቃ ቢሮ
Amhara National Regional State Health Bureau
Amhara Public Health Institute
የአማራ ህብረተሰብ ጤና ኢንስቲትዩት
ባህር ዳር

Ref No ....
Date ....
ቁጥር አህ/ጤ/ም/ቴ/ቨ/ዳ03/881/10
ቀን 11/07/2010ዓ/ም

ለፈለገ-ህይወት ሪፈራል ሆስፒታል

ለጎንደር ሪፈራል ሆስፒታል

ለአዲስ ዘመን የመጀመሪያ ደረጃ ሆስፒታል

ለደብረታቦር ጠቅላላ ደረጃ ሆስፒታል

ለንፋስ መውጫ የመጀመሪያ ደረጃ ሆስፒታል

ለእስቴ የመጀመሪያ ደረጃ ሆስፒታል

ለፍ/ሰላም የመጀመሪያ ሆስፒታል

ለመርአዊ የመጀመሪያ ደረጃ ሆስፒታል

ባሉበት

ጉዳዩ:- የትብብር ደብዳቤ ስለመስጠት

ሲ/ር እሌኒ አድማሱ በባህር ዳር ዩኒቨርሲቲ ...ብረተሰብ ጤና ትምህርት ክፍል መምህር እና በአሁኑ ሰዓት የ3ኛ ድግሪ ተማሪ ሲሆኑ " ...ution Delivery Care Services At Public Health Facilities In North West ...ማችሁ ውስጥ ጥናታዊ ጽሁፍ እንዲሰሩ ፕሮፖዛላቸው በUnive... ...ድ ተገምግሞ ተቀባይነት ያገኘ በመሆኑ በመ/ቤታች... እያሳወቅን፤ ጥናቱን የሚያካሄደው ማህበረሰብ ጥቅም ላይ መዋሉን ኢንስቲትዩት የምርምርና ቴክኖሎ...

በአብክመ ጤና ጥበቃ ቢሮ የደብረ ታቦር ሆስፒታል የዘ. ማህደር
የደብዳቤ ቁጥር 803/881/10
የተጻፈበት ቀን 11/7/10
አባሪ ቁጥር
የደረሰበት ቀን 28-10-10
ፊርማ

➢ ግልባጭ:
- ✓ ለአማራ ህብረተሰብ ...
- ✓ ለምክትል ዋ/ዳይሬክ...
- ✓ ሲ/ር እሌኒ አድ...

ባሉበት

✉ 477

በአማራ ብሔራዊ ክልላዊ መንግስት ጤና ጥበቃ ቢሮ
Amhara National Regional State Health Bureau
Amhara Public Health Institute
የአማራ ህብረተሰብ ጤና ኢንስቲትዩት
ባህር ዳር

Ref No .....
Date .....
ቁጥር አ/ህ/ጤ/ም/ተ/ሽ/ጸ03/881/10
ቀን 11/07/2010ዓ/ም

ለፈለገ-ህይወት ሪፈራል ሆስፒታል
ለጎንደር ሪፈራል ሆስፒታል
ለአዲስ ዘመን የመጀመሪያ ደረጃ ሆስፒታል
ለደብረታቦር ጠቅላላ ደረጃ ሆስፒታል
ለጎፋስ መውጫ የመጀመሪያ ደረጃ ሆስፒታል
ለእስቴ የመጀመሪያ ደረጃ ሆስፒታል
ለፍ/ሰላም የመጀመሪያ ሆስፒታል
ለመርአዊ የመጀመሪያ ደረጃ ሆስፒታል
ባሉበት

ጉዳዩ፡- የትብብር ደብዳቤ ስለመስጠት

ሰ/ር አሌኒ አድማሱ በባህር ዳር ዩኒቨርሲቲ በህብረተሰብ ጤና ትምህርት ክፍል መምህር እና በአሁኑ ሰዓት የ3ኛ ድግሪ ተማሪ ሲሆኑ "Quality Of Institution Delivery Care Services At Public Health Facilities In North West Ethiopia."በሚል ርዕስ በተቋማችሁ ውስጥ ጥናታዊ ጽሁፍ እንዲሰሩ ኘሮፖዛላቸው በUniversity Of South Africa ኢቲካል ሪቪው ቦርድ ተገምግሞ ተቀባይነት ያገኘ በመሆኑ በመ/ቤታችሁ በኩል አስፈላጊው የስራ ትብብር እንዲደረግላቸው እያሳወቅን፤ ጥናቱን የሚያካሄድው አካልም ጥናቱን ሲያጠናቅቅ ውጤቱ ጥናቱ ለተካሄደበት ማህበረሰብ ጥቅም ላይ መዋሉን ለመከታተል ያመች ዘንድ ቅጅ ለአማራ ህብረተሰብ ጤና ኢንስቲትዩት የምርምርና ቴክኖሎጅ ሽግግር ዳይሬክቶሬት እንዲያቀርብ እናሳውቃለን።

ከሠላምታ ጋር
ጌታየ ቸሩ

➢ ግልባጭ፡
- ✓ ለአማራ ህብረተሰብ ጤና ኢንስቲትዩት ዋና ዳይሬክተር
- ✓ ለምክትል ዋ/ዳይሬክተር
- ✓ ሰ/ር አሌኒ አድማሱ

ባሉበት

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0582220191

10 Annexe 10: Language editing certificate

EDITING AND PROOFREADING CERTIFICATE

7542 Galangal Street

Lotus Gardens

Pretoria

0008

24 February 2021

TO WHOM IT MAY CONCERN

This certificate serves to confirm that I have technical edited Eleni Admassu Mersha's dissertation entitled, **"Quality of institutional delivery care services at public health facilities in North West Ethiopia."**

I found the work easy and intriguing to read. Much of my editing basically dealt with obstructionist technical aspects of language, which could have otherwise compromised smooth reading as well as the sense of the information being conveyed. I hope that the work will be found to be of an acceptable standard. I am a member of Professional Editors' Guild.

Hereunder are my contact details:

Jack Chokwe (Mr)

Contact numbers: 072 214 5489

jackchokwe@gmail.com

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