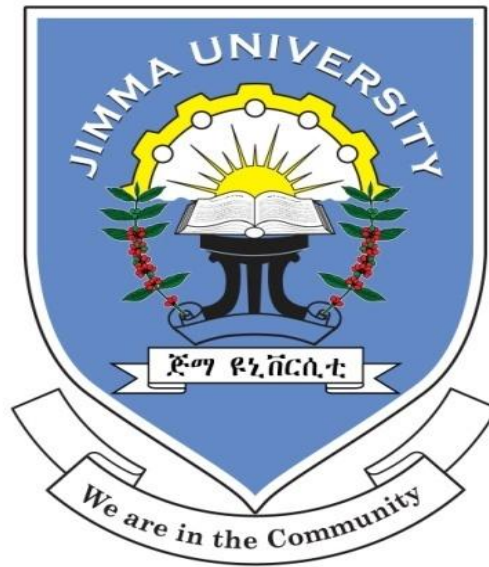


QUALITY OF DELIVERY SERVICE AT PUBLIC HEALTH FACILITIES IN ARBAMINCH TOWN AND THE SURROUNDING DISTRICT, GAMO GOFA ZONE , SOUTHERN ETHIOPIA.



BY: - ZERITU DEWANA

A THESIS SUBMITTED TO JIMMA UNIVERSITY, COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES, DEPARTMENT OF POPULATION AND FAMILY HEALTH, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH IN REPRODUCTIVE HEALTH (MPH)

**JUNE, 2014
JIMMA, ETHIOPIA**

JIMMA UNIVERSITY
COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES
DEPARTMENT OF POPULATION AND FAMILY HEALTH

QUALITY OF DELIVERY SERVICE AT PUBLIC HEALTH FACILITIES IN
ARBAMINCH TOWN AND THE SURROUNDING DISTRICT, GAMO GOFA ZONE,
SOUTHERN ETHIOPIA.

BY: - ZERITU DEWANA

ADVISORS: 1.PRO. ABEBE G/MARIAM (PROFESSOR, MPH)
2. MRS. MISRA ABDULAH (MPH/RH)

JUNE, 2014
JIMMA, ETHIOPIA

Abstract

Background: Quality of delivery care service is an important aspect of maternal healthcare that is given a priority globally and in developing countries in particular, however reports on this aspect are scarce, which calls for further study. Therefore, assessment and improvement of the quality of delivery services could enhance delivery care services utilization.

Objectives: To assess quality of delivery service at public health facilities in Arba Minch town and the surrounding district, Gamo Gofa zone, Southern Ethiopia.

Methods: A cross sectional facility based study using both quantitative and qualitative method of data collection was conducted from April 1st-25th, 2014. All 9 facilities, 27 key informants and a total of 256 delivered mothers were included. The data was collected using pre-tested interview guided, Semi structured in-depth interview guide and structured checklists were used and entered by using Epi data version 3.1 and analyzed by using SPSS version 20.0. Factor analysis was performed for likert scale questions. Qualitative data was analyzed using thematic approach then triangulated with quantitative. Descriptive, bivariate, multivariable and overall quality of delivery services the composite quality indices analysis was performed.

Result The overall quality of care was 54.06%. A shortage of some medical equipment, drugs, supplies, infection prevention materials and trained staffs in health facilities and also few partograph records, good client provider interaction and low infection prevention practice was observed. Two hundred thirty two (90.2%) studied clients reported satisfied by services. Factors that predicted client satisfaction in delivery care service was included :- not attending formal education with [AOR= 8.00, 95% CI = (1.51, 42.61)], follow the recommended number of anti natal care visit[AOR = 5.00, 95% CI = (1.76, 14.20)], waiting time less than 15minits to be seen by health professional with [AOR = 3.37 ,95% CI = (1.14, 10.00)] and those mothers who not payed for the drugs and supplies[AOR = 6.19,95% CI = (1.34, 28.57)] were more satisfied than their counter part.

Conclusion in this study poor quality delivery service was observed at all health facilities. Thus it was recommended that the government could take actions for improving facilities capacity and performance of care providers in order to improve quality of delivery service.

Keywords: Delivery, quality of delivery services, client satisfaction, Arba Minch town and the surrounding district

Acknowledgment

First of all, I am very thankful to God, the almighty, who granted me the motive for learning. Then I would like to express my heartfelt gratitude to Jimma University for free internet access to my thesis.

I would like to express my especial heartfelt gratitude to my advisors Professor Abebe G/Mariam and Mrs. Misra Abdullah for their indispensable guide, immeasurable support and constructive guidance from the time of research topic selection and provision of subsequent comments on direction of my research.

My sincere gratitude is to Jimma University, College of public health and medical sciences, Department of population and family health instructors for their immeasurable support and constructive ideas

Also I would like to acknowledge Arba Minch town health office and the surrounding district health office for providing the background information of the facilities.

My deepest gratitude also goes to facility heads, delivery ward team leaders, drug store keepers and mother who participated on the study.

I would like to forward my great thank to all data collectors and supervisors involved in this study.

I would like to express my sincere gratitude particularly to my husband Teshale F. and my families for their support to write this thesis by giving materials and psychological support.

Contents

Abstract	i
Acknowledgment	ii
Contents	iii
List of tables	vi
List of figures	vii
Acronyms.....	viii
1. Introduction.....	1
1.1 Background	1
1.2 Statement of the problem	4
2. Literature Review	8
2.1 Structure/input.....	8
2.1.1 Resource availability	8
2.1.2 <i>Infection prevention</i>	9
2.2 Process.....	10
2.3 Out come	11
2.4 Significance of the study	15
3. Objectives.....	16
3.1. General objective.....	16
3.2. Specific objectives.....	16
4. Methods and Materials	17
4.1 Study area.....	17
4.2 Study period	17
4.3 Study design	17
4.4 Populations	17

4.4.1	<i>Source population</i>	17
4.4.2	<i>Study population</i>	18
4.5	Inclusion and exclusion criteria.....	18
4.5.1	<i>Inclusion criteria</i>	18
4.5.2	<i>Exclusion criteria</i>	18
4.6	Sample size and sampling techniques	19
4.6.1	<i>Sample size determination</i>	19
4.6.2	<i>Sampling techniques</i>	20
4.7	Variables.....	22
4.7.1	<i>Dependent variable</i>	22
4.7.2	<i>Independent variables</i>	22
4.8	Data collection instrument and techniques.....	22
4.9	Data entry & analysis	23
4.10.	Data quality assurance.....	26
4.11	Ethical Consideration	26
4.12	Dissemination plan.....	26
4.13	Operational definitions.....	27
5	Result.....	30
5.1	Structure assessments.....	30
5.2	processes.....	35
5.3	Outcome	39
5.3.1	Socio demographic characteristics	39
5.3.2	Obstetric and gynecologic characteristics	41
5.3.3	Health facility related factors	42
	Bivariate analysis.....	45

Quality of delivery service	50
6. Discussion	51
Strength and limitation	54
7. Conclusion and recommendation	55
7.1 Conclusion	55
7.2 Recommendation	56
Reference.....	57
Annex.....	63

List of tables

Table 1 Distribution of human resources in Arba Minch town and the surrounding district of public health facility, Gamo Gofa zone, South Ethiopia, April 1 st to 25 th , 2014.....	31
Table 2 Availability of infrastructure, supplies, equipment and drugs in public health facility of Arba Minch town and the surrounding district, Gamo Gofa zone, South Ethiopia, April 1 st to 25 th , 2014. ..	34
Table 3 Recording parameters of maternal and fetal conditions in public health facilities of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1 st – 25 th , 2014.....	36
Table 4 Socio demographic related characteristic of the respondent in public health facilities of Arba Minch town and the surrounding district, Gamo Gofa zone, South Ethiopia, April 1 st to 25 th , 2014...	40
Table 5 Obstetric and gynecologic related characteristics of respondent in public health facility of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April, 2014	41
Table 6 Health facility related factors of the respondent in public health facilities of Arba Minch town and the surrounding district, Gamo Gofa zone, South Ethiopia, April 1 st to 25 th , 2014.....	43
Table 7 Factors associated with client satisfaction on delivery care in public health facility of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1 st -25 th , 2014.	46
Table 8 Independent predictor of client satisfaction on delivery care in public health facility of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1 st -25 th , 2014	49
Table 9 Assigned relative weights and the calculated weight of quality components in public health facilities of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1 st to 25 th , 2014.....	50

List of figures

Figure 1 Conceptual frame work for assessing quality of delivery service of public health facilities in Arba Minch town and the surrounding district of Gamo Gofa zone, April ,2014(Adapted from Donabedian ,2003).....	14
Figure 2 Schematic presentations of sampling procedure of Arba Minch town and the surrounding district public health facilities, 2013/14	21
Figure 3 Client provider interactions in public health facility of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1 st to 25 th , 2014.....	37
Figure 4 Infection prevention practice reported in public health facility of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1 st to 25 th , 2014	38
Figure 5 Major dimensions of care satisfaction scores by postnatal mothers delivered in Arba Minch town and the surrounding district, Gamo Goffa zone, April 1 st to 25 th , 2014.	44

Acronyms

ANC	Anti natal Care
AOR	Adjusted odd ratio
COR	Crud Odd ratio
C/S	Cesarean Section
CSA	Central statistic agency
EmOC	Emergency obstetric care
EDHS	Ethiopian demographic and health survey
FACN	Focus Antenatal Care
FHB	Fetal heart beat
IP	Infection Prevention
IPPS	Infection prevention and patient safety
MDG	Millennium development goal
MMR	Maternal mortality rates
SNNPR	South Nation Nationality and people Region
SPSS	Statistical Package for Social Science
SVD	Spontaneous Vaginal Delivery
WHO	World Health Organization
ICPD	International Conference on Population Development
HSDP	Health Sector Development Program
HP	Hospital
HC	Health Center

1. Introduction

1.1 Background

Defining quality of care is complex. Several authors and/or organizations have defined according to a set of dimensions. According to Donabedian [1], one of the most widely recognized experts on quality of health care research defined quality care as ‘‘ a care which is expected to maximize an inclusive measure of client welfare, after one has taken account of the balance of expected gains and losses that attend the process of care’’ with the following three distinct factors:

- **Structure** refers to the facility such as a hospital or health center & its safety, cleanliness, and availability of equipment,
- **Process** refers to the medical staff’s use of the structure and
- **Outcomes** refer to the patient getting well or at least getting no sicker than without intervention or client’s satisfaction by service provision [1].

Other Authors [2] add important aspect of quality care as

- **Technical competence** refers to the skills and actual performance of the health providers in regard to examinations, consultations and other technical procedures,
- **The interaction** between the provider and the client comprises the category of interpersonal relations,
- **Accessibility for the client** means that the health care services are unrestricted by barriers such as geography, cost, language, and times when the facilities are open and
- **Amenities** refer to a client’s perception of the physical health care facility, as well as supplies and equipment within the facility [2].

In 1990 institute of medicine [3] defined quality of care as: ‘degree to which health services for individuals and populations increase the likelihood of desired health outcomes and consistent with the current professional knowledge’ [3]

Maxwell[4] added to this initial concept by arguing that quality of care cannot be measured in a single dimension and suggested six dimensions (access, equity, appropriate, relevant to end, acceptability, efficient and effectiveness) of quality[4].

For conceptualizing quality of care components are revised as follows in 2010[5]

1. Structure(organizational factors that define the health system under which care is provided)
 - Physical resources - The infrastructure, equipment, drugs and supplies required to enable the provision of quality care for normal delivery and treatment of complications.
 - Human resources - Care by appropriately trained, motivated and supervised providers; numbers of staff adequate to meet the demand for care.
2. Process (the interactions between users and health care providers; it can be thought of as the actual delivery and receipt of care).
 - Competent –Management of care consistent with scientific knowledge, internationally recognized good practice and responsive to the needs and values of patients. Care is safe (clean birth practices, avoidance of iatrogenic harm); timely and responsive (respectful, promoting autonomy, equitable). Care should also be documented adequately.
 - Efficient - Resources are used to yield maximum benefits.
3. Outcome (the consequences of care)
 - Effective (clinical) - Good clinical outcomes achieved
 - Effective (satisfaction) - Patient/Provider satisfaction high [5]. Delivery of quality health services is central to improving the health status of the population and satisfying clients as a primary goal [6]. It is provision of health services as per the standard by health facilities at all levels of health facilities

The first steps of quality service are availability and capacity to deliver the services. If the minimum standards are not fulfilled quality is bound to be poor. Care is said to be of high quality if it is effective, safe, centered on the client's needs and given in a timely fashion. From the perspective of the health system, quality of care needs to be assessed from a structural, process and outcome basis where possible to provide a full picture of where problems are occurring and how they might be addressed [7]. The potential indicators of quality health services can be grouped into infrastructure, infection control, services offered according to a minimum standard, laboratory services, drugs and commodities, basic

equipment and supplies. Measures will be taken to improve the number, distribution and management of health. New system of health care financing, are important to overcome the bottlenecks in the sector [6].

Availability of resources is significant in the provision of good quality service to clients in health facilities. Resources such as equipment, instruments, transport, infrastructure and most important is human resource and water without which the services rendered its quality.

However, quality delivery care is crucial for both maternal and neonatal health and increasing skilled attendance at birth is a central goal of the safe motherhood and child survival movements [8].

Also health care providers especially those dealing with child birth will find it difficult to execute their function. Inadequacy of resources jeopardize the effort of the health staff and will lead to provision of substandard care[9] improving quality of care needs training providers and upgrading infrastructure and equipment [10]

1.2 Statement of the problem

Worldwide more than half a million women die as a result of complication of pregnancy and child birth. Ninety-nine percent of these deaths occur in developing countries [11]. Each year 210 million women become pregnant of which 20 million experience pregnancy related illnesses [12].

The health of women and children remain to be major challenges in the world, particularly in developing countries. Globally, in 2010 an estimated 287,000 maternal deaths occur annually, nearly all of these deaths (99%) occur in developing countries , particularly maternal deaths are more concentrated in Sub-Saharan Africa which accounted for 56 percent of the total deaths globally . Of these deaths most are caused by complications during or just after delivery and the vast majority are avoidable [13, 14, 15]. For women who survive, approximately 10 million suffer from complications related to pregnancy and childbirth [16]. Ethiopia is one of the countries that have the highest maternal mortality rates in the world which is estimated to be 676/100,000live births, about seven women (6.76) died during pregnancy, childbirth, or within two months of birth. The lifetime risk of maternal death (0.036) indicates that about 4 percent of women died during pregnancy, childbirth, or within two months of birth one in every 17 Ethiopian children dies before the first birthday, and

One in every 11 children dies before the fifth birthday. Infant mortality declined by 39 percent over the 15-year period between the 2000 EDHS and the 2011 EDHS, from 97 deaths per 1,000 live births to 59 deaths per 1,000 live births [17]. The proportion of birth attended by skill personnel in Ethiopia (10%),much lower than developing countries (65%),sub Sahara region 46% very far from MDG target of coverage[13,17]. Most of the women did not receive delivery care by skilled birth attendant [17, 18].

Between 1990 and 2010 maternal mortality ratio dropped by 47.5 percent from 400 to 210 per 100, 000 live births [14]. To reduce maternal deaths dramatically, all women need access to high quality delivery care with at least three key elements: skilled care at birth, emergency obstetric care in case of complications and a functioning referral system, which ensures access to emergency care [19]. Quality of care was found to be substandard like poor hand washing facility, lack of safety container, low use of guide line and no use of partograph for decision of labour Care in Albania [20].

Recent evaluation showed that progress of maternal mortality has been slow in sub-Saharan Africa because of low quality of care, inadequate human resources, insufficient access to essential health technologies like essential equipments, drugs, and supplies and financial barriers to care for the provision of safe childbirth care for mothers and newborns [14, 21, 22, 23]. Infection control in maternity units should be prioritized as a major strategy to reduce the high rate of maternal morbidity and mortality but there is lack of necessary equipments and supplies to infection prevention in some facilities [24].

In Ethiopia unmet health needs are fueled by poverty, lack of infrastructure, health work force deficiency, lack of equipment and gender inequality, high fertility and lack of access to quality services result in high rates of maternal morbidity and mortality [25,26]. Poor quality of service provided to labor and delivery for client was observed at all levels of hospitals and among all provider types, and also the national guidelines recommends the use of partograph for all laboring women but partograph use was very low [27], and only 10% of Ethiopian women delivered by a skilled provider, and 6% in SNNPR which is lower than the national [17]. Health care users experienced poor quality caring in the health facilities. Women in labour lacked support, experienced neglect, as well as physical and verbal abuse. In addition midwives lacked supportive supervision and the necessary supplies [21],

This may contribute to the poor quality of care provided to laboring mother .This poor quality of care and general dissatisfaction influences patients' use of health services and compliance with treatment [22] .The experience of clients in obtaining care is believed to be an important predictor of future use of services as well as to influence care-seeking behavior among others in the community [28].

There is enough evidence that the health of a mother is also linked to the health and survival of the infant. Therefore, evidence based quality intra-partum care can contribute significantly to the reduction of both maternal and child morbidity and mortality. Any interventions that work for women and children including delivering high-quality services and packages of interventions in a continuum of care and quality skilled care for women and newborns during and after pregnancy and childbirth are crucial to reduce maternal and infant morbidity and mortality [29].

There are strategies to decrease maternal morbidity and mortality in international level by half using safe delivery as one of the key issues emphasized at the time of ICPD on 1994 in Cairo [30]. Another is WHO resolved skilled birth attendant at every birth to reduce maternal mortality, and recommends that women's satisfaction be assessed to improve the quality and effectiveness of health care [31],and also improving maternal health and decreasing maternal mortality fall into three prevention strategies[32]:

- Primary prevention strategies to prevent the condition from occurring intrapartum and postpartum infections through education and services provision
- Secondary prevention strategies is increasing emphasis on patient satisfaction with care in order to improve patients' adherence to the recommendations of their health care workers and improving labour and delivery techniques and
- Tertiary prevention strategies improving obstetric and medical treatment of complications and improving practices, facilities, referral services and organization of services.

In addition to this delivery assisted by skilled providers is the most important proven intervention improving maternal health and one of the MDG indicators to track global and national efforts towards improving maternal health [17].

At National level, To address the issues, the government is reinforcing the HSDP with a strong community-based component centered on the Strengthening and scale up of Health Extension Program , accelerated construction, expansion and strengthening of Health centers and hospitals (expansion of specialized hospitals) renovation and maintenance of Hospitals and Health Centers and fulfilling of necessary inputs to provide the population quality health service Another critical issue is he accelerated expansion of health centers that mainly focus on curative services, especially emergency obstetric care (EmOC),implement quality management such as Nursing standard, infection prevention, medical record standard, establishing a well functional referral system and , training of key health professionals by implement accelerated training of specialists doctors and introduce the training of emergency medicine to improve the emergency medical service(emergency obstetric care surgery) and Scaling up of the midwifery and health officers training and anesthesia professionals. Strengthening and scaling up of the participation of the private sector in the health system

specifically in construction and expansion of specialized hospitals. Establishing and scaling up of the incentive package to expand private sector participation in the expansion of pharmaceutical factories, Scale up the implementation of harmonization and alignment and ensure the participation of stakeholders [6, 33].

Much had been invested to enhance health facilities and services that focus on improving maternal health but the desired results are often not seen. Despite of the above strategies still the maternal mortality is not decreasing and skilled delivery care coverage is low. Why? Despite of these high burdens and challenges there is little information on how well qualities of obstetric services are being provided in many developing countries including Ethiopia. Only few studies have been conducted in Ethiopia regarding client satisfaction on delivery care and partograph utilization during labor and delivery but scarce report on structure part. However in our study ,we include the above all(structure, process and outcome in the combination) to assess the quality of delivery service among public health facilities in Arba Minch town and the surrounding district, Gamo Gofa zone ,southern Ethiopia. Thus this study was addressed quality of delivery services from health system perspective and client perspective.

2. Literature Review

This study concentrated on resource availability (physical and human), Partograph utilization, client provider interaction, infection prevention practices from process part and client's satisfaction from outcome part.

2.1 Structure/input

2.1.1 Resource availability

Availing adequate number of skilled and motivated professionals; strengthening the supply chain management system in order to ensure adequate and uninterrupted supply of pharmaceuticals at the point of service delivery is important for the quality of care. The category of staff rendering maternal and child health services in the wards is a contributing factor to the outcome of delivery and the state of health of mother and baby after delivery. The well trained midwives acquire knowledge and skills to better manage labour and thereafter. The presence of a trained midwife or skilled birth attendant at delivery is essential in averting maternal and neonatal morbidity and mortality. Increasing access to skilled attendant especially at birth is not only a legitimate demand and clinical knowledge but it is cost effective and feasible in resource poor countries. If health providers do not offer quality services, they will fail to earn the population trust, and clients will come to the health system only when they are in dire need of curative care. Quality care therefore should be available and affordable. A shortage of EmOC skilled care providers is reported in countries affected by the burden of maternal mortality [22, 34, 35]

Staff shortages weaken the quality of care by increasing professionals' workloads and patients' waiting times and making infection control more difficult [22]. Additionally Staff qualifications determine their capacity to diagnose and handle patients adequately. Thus, maternal morbidity was significantly better diagnosed and treated by doctors and midwives than by nurses and traditional birth attendants [36].

Qualifications also influence users' perceptions of the quality of care where the low rate of utilization of health centers providing EmOC is partially due to the poor perception of quality of care. This bad perception is the consequence of shortfalls in skilled professionals [36]

A study done in developing countries demonstrated that staff shortages are a major obstacle to providing good quality EmOC [22]. And another study conducted in Kenya showed that staff shortage was listed as the most common cause of not using the partograph similarly Supplies for monitoring labour such as fetoscopes and blood pressure machines were in short supply and sometimes not functional these leads to poor quality of intra partum care[36].

A study conducted in Uganda revealed that inadequate trained health workers; shortage of essential drugs, poor attitude of the health workers, long distances & waiting time to health facilities affects quality of care [61]. Similarly cross sectional study conducted in Ethiopia showed that waiting time, availability of waiting area, privacy during examinations, amount of cost paid for service, distance, cleanses of the facility, age and educational status of the mother affects their satisfaction on the care given to them[37, 38].

2.1.2 Infection prevention

Health care associated infection is defined as an infection occurring in a patient during the process of care in a hospital or other health-care facility that was not manifest or incubating at the time of admission [39]. Infections that are acquired in health care facilities are a major health concern due to poor sanitary conditions, poor health care waste management, and lack of awareness regarding infection prevention and patient safety [40 , 41]. Infection prevention is a quality standard of patient care and significant for the patient's well being and the safety of both patients and staff [42].

The burden of health care associated infection is already substantial in developed countries, where it affects from 5% to 15% of hospitalized patients in regular wards and as many as 50% or more of patients in intensive care units [43,44]. But in developing countries, the magnitude of the problem remains underestimated or even unknown largely because health care associated infection diagnosis is complex and surveillance activities to guide interventions require expertise and resources [45, 46, 47]. Infection prevention in the maternity unit especially during labor and delivery is highly essential as its negligence may result in puerperal sepsis and various infections to the mother and baby.

In the health set up it contributes tremendously to patient's quality care and safety. also it should be in the interest of both patients and staff to protect patients and health care personnel, and promote health care quality[24].

Study conducted in India revealed that 70% respondents said that standard infection control procedures were followed, but a written procedure was only available in 5% of facilities. Alcohol rubs were not used for hand cleaning and surgical gloves were reused in over 70% of facilities, especially for vaginal examinations in the labour room. Most types of equipment and supplies were available but a third of facilities did not have wash basins with “hands-free” taps. Only 15% of facilities reported that wiping of surfaces was done immediately after each delivery in labour rooms. Blood culture services were available in 25% of facilities and antibiotics are widely given to women after normal delivery. A few facilities had data on infections and reported rates of 3% to 5% [47].

Study conducted in Southern Nigeria showed that available written policies and procedures established in 25% of facilities in Southern Nigeria, Plastic or rubber apron and face shield (a mask and goggles) available 70% of facilities. Protective wear is in short supply. Taken together, these observations suggest that health facilities may not have put in place effective mechanisms for implementing infection control practices. The results of this study showed that many of the health facilities did not meet these basic minimum standards. [24]

2.2 Process

Among the components of process the study was focus on Partograph utilization, client provider interaction and infection prevention practice. Partograph serves as an "early warning system" and assists in early decision on transfer, augmentation and termination of labor. It also increases the quality and regularity of all observations on the fetus and the mother in labor, and aids early recognition of problems [48, 49, 50, 51] it can separate normal labor from an abnormal, such as longer first and second stages and incidence of instrumental delivery [50, 51] some studies showed that proper utilization of Partograph decreases intrapartum mortality by 10 deaths/1000 births [51].

All information about the laboring women and her intra partum progress could be obtained from a single sheet of paper thus fulfilling the need for proper documentation in patient management but the supplies required to aid complete and accurate documentation of the Partograph are gloves, disinfectants for performing vaginal examinations, fetoscopes,

thermometer, blood pressure apparatus, and urinalysis test strips. In the absence of these supplies the care given to intra partum care was hindered [53].

Many studies revealed that effective use of partograph promotes confidence, and has reduced both prolonged labour (from 6.4% to 3.4% of labour) and the outcome was caesarean sections fail (from 9.9 to 8.3%) likewise intrapartum still births fell (from 0.5 to 0.3 %) also study done in India partograph use decrease caesarean section rate from 44% to 21% and significant reduction in prolonged labour which brings an improved maternal & neonatal outcome but most of the partograph was not completely recorded[49,50, 51].

The assessment carried out in a sample of ten maternity hospitals in Albania, Kazakhstan and Turkmenistan showed that the quality of care for mothers and newborn babies was inadequate attention paid to privacy, confidentiality and lack of adequate information provision were the most common complaint, mentioned by almost all the interviewed mothers [20].

Study conducted in Ethiopian hospitals 53% of the women in labor were greeted respectfully by the provider, explanations of procedures and what would happen during labor were offered in about only 35% of the labors observed and 44% of the women were draped to protect their privacy [27].

2.3 Out come

Outcomes can be measured in terms of health status, deaths, or disability-adjusted life years (a measure that encompasses the morbidity and mortality of patients or groups of patients) improvements in patient's knowledge. Outcomes also include patient satisfaction or patient responsiveness to the health care system. [58]. Quality assessment studies usually measure one of three types of outcomes: medical outcomes, costs, and client satisfaction.

For the last mentioned, clients are asked to assess not their own health status after receiving care but their satisfaction with the services delivered[59].

Client satisfaction may not necessarily mean that quality is good; it may only indicate that expectations are low. One woman in Bangladesh explained that, even though the providers behaved badly, she has to be content. She said that ' they are lucky if they can get the free medicines that are provided at the clinic'. Clients may also say that they are satisfied with care because they want to please the interviewer, worry that care maybe withheld in the future, or have some cultural or other reason to fear complaining.

Many clients have limited options and have never experienced any other standards of care. Further, educational and class differences between clients and providers often limit clients' ability to assess services[59].

Patient satisfaction has been increasingly recognized as an important outcome for the health care delivery system to measure quality of care [9]. Several studies of maternal health care and patient satisfaction in developing countries have assessed whether satisfaction is related to multiple aspects of quality of care. An important predictor of satisfaction, quality of care has evolved as a concept over several decades of research and professional practice [37, 38, 54, 55, 58, 61].

Women's satisfaction with delivery care associated with quality of care, including courtesy and availability of staff, confidence in providers, being treated with respect, receiving information and physical comfort [61]. Studies done in developing country revealed that women are often dissatisfied with the care they receive during child birth; and the technical quality of EmOC has not been adequately studied [9].

In a study conducted in Kenya satisfied women on delivery care confirmed they will visit the facility again and women's satisfaction with delivery care was associated with provider empathy and accessibility of facility. And also satisfied women on delivery care confirmed they will visit the facility again [54]. Additionally study conducted in Uganda showed that client satisfaction was associated with education level, place of residence, and number of children ever born [61].

A cross sectional study conducted in Ethiopia revealed that Women's satisfaction with delivery care was associated with immediate maternal condition after delivery, waiting time to see the health worker, availability of waiting area, care providers' measure taken to assure privacy during examinations, and amount of cost paid for service[37,38]. Few studies were conducted on client satisfaction and partograph utilization but scarce literature on structure and also all are done separately there is scarce literature on how to measure quality of delivery service .

The development of scientifically valid and reliable maternal quality of care instruments in 2010 in progress, with 5 key phases: Conceptualization, Evidence-based design, External review, Field testing, and Consolidation (including development of composite scoring).

The tool development is an interactive and collaborative process. The first two steps are close to completion essentially through desk-based work. The remaining three phases will involve collaborative fieldwork with partners in sub-Saharan Africa [5]. Therefore, this study tried to look the above three parts on combination by preparing composite indices for each to measure structure, process and outcome after that we measure overall quality of delivery services.

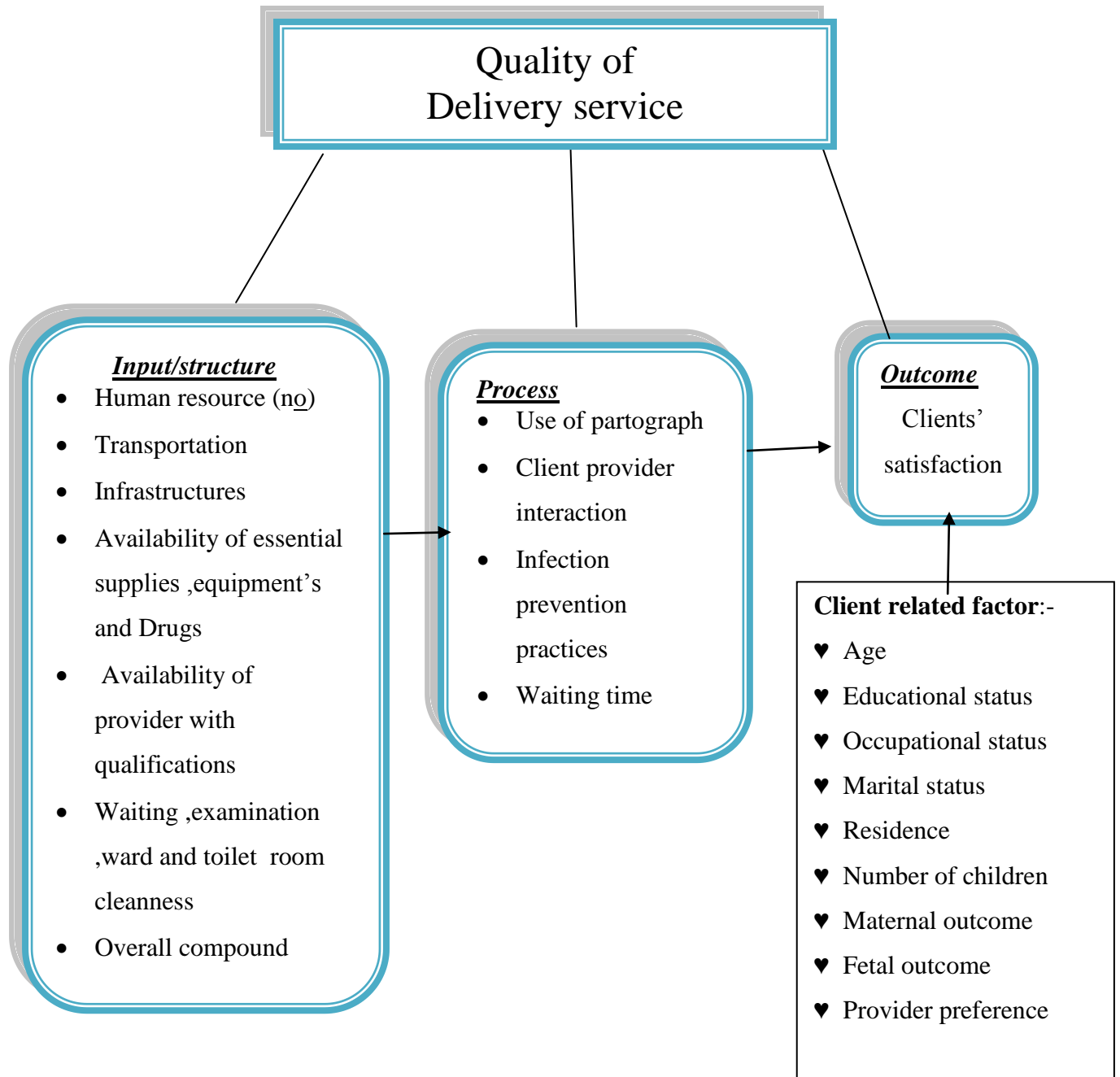


Figure 1 Conceptual frame work for assessing quality of delivery service of public health facilities in Arba Minch town and the surrounding district of Gamo Gofa zone, April ,2014(Adapted from Donabedian ,2003).

2.4 Significance of the study

Maternal mortality remains a major public health problem in most developing countries including Ethiopia. Knowledge about quality of delivery care is an important precondition for not only improving maternal health but also to increase health service utilization by women. Globally delivery care by skilled health professional in developed countries is almost 100 %, but in developing countries only half of deliveries are attended by a skilled attendant. But in African, a region with high MMR the delivery care by skilled health professional is still less than 50%. Even though extensive work has been done by increasing the number of health facilities and health care provider to delivery care service by given a number of training like emergency obstetric surgery, accelerated HO, midwifery nursing and health extension urban and rural; still the utilization of skilled delivery is low and maternal mortality is not decreasing in developing countries including Ethiopia. So, increasing quality of delivery service could help to increase use of skilled provider for delivery at the same time decrease maternal mortality.

However, there are very few studies which are conducted on client satisfaction on delivery care services and partograph utilization, however, studies on structure part is scares in Ethiopia. This study has incorporated client satisfaction in delivery care services, structure part, partograph utilization, client provider interaction and infection prevention practice of the facilities. Moreover, there are no studies conducted on quality of delivery service in study area. Therefore, the aim of this study is to assess quality of delivery service among public health facilities in Arba Minch town and the surrounding district.

The findings from this study will help to address gaps by giving full information about quality delivery services for the formulation of relevant policies and intervention strategies and improvement of implementations to reduce maternal & neonatal morbidity and mortality; It can also the paper may be useful to other researchers as reference material while conducting further studies on similar studies.

The results will also form baseline data for improving quality of delivery services in the study area specifically and subsequently contributing to improve maternal health.

3. Objectives

3.1. General objective

To assess quality of delivery service at public health facilities in Arba Minch town and the surrounding district, Gamo Gofa zone, Southern Ethiopia, 2014.

3.2. Specific objectives

1. To assess the availability of resources (input) to provide quality delivery services.
2. To determine the compliance of partograph use to the WHO standard guideline.
3. To determine client provider interaction during delivery care service provision.
4. To assess infection prevention practice of delivery service providers.
5. To assess the level of clients' satisfaction towards delivery care services
6. To identify factors associated with client satisfaction of delivery services.

4. Methods and Materials

4.1 Study area

The study was conducted in Arba Minch town and the surrounding district public health facilities. Arba Minch town and its surrounding is one of the 15 districts in Gamo Gofa Zone the capital town. It is located 505 Km south of Addis Ababa & 275 Km south west of regional city (Hawassa). The town and the surrounding were administratively divided in to 40 kebeles (29 rural and 11 urban) with total population of 300,057 (51% female & 49% male) and women of reproductive age comprises 69,913 (84.6% non-pregnant & 15.4% pregnant) for the year 2013/14 which is projected from 2007 CSA [56]. The area has one hospital and 8 health centers providing an estimated 3,876 delivery services expected annually.

4.2 Study period

The study was conducted from April 1st to 25th April 2014.

4.3 Study design

Facility- based cross sectional study design was employed using both qualitative & quantitative methods of data collection.

4.4 Populations

4.4.1 Source population

For quantitative part

All mothers who gave birth at public health facility of Arba Minch town and the surrounding district.

For qualitative part

All public health facilities, facility heads, drug store keepers and delivery ward team leaders of the town and the surrounding district that provide delivery care.

4.4.2 Study population

For quantitative part

Sampled mothers from source population who gave birth at public health facilities of Arba Minch town and the surrounding district during data collection period

For qualitative part

All public health facilities, facility heads, drug store keepers and delivery ward team leaders of Arba Minch town and the surrounding district that provide delivery care.

4.5 Inclusion and exclusion criteria

4.5.1 Inclusion criteria

- All public health facilities of Arba Minch town and the surrounding district
- All mothers who gave birth at public health facility in the town and surrounding district during the data collection period.
- Those mothers who were volunteers to participate in the study.

4.5.2 Exclusion criteria

- Health posts were excluded because in these facilities rural health extensions are working and currently delivery care is not provided by rural health extension workers.
- Those mothers who were in critical health condition and unable to communicate during discharge/ referral.

4.6 Sample size and sampling techniques

4.6.1 Sample size determination

For quantitative part

The sample size was determined using single population proportion formula considering the assumptions of all specific objectives to get maximum sample size. We select **p=20.7%** proportion of partograph recorded according to standard (uterine contraction) [52].

Z = 1.96, d = 5%, level of confidence 95% (alpha 0.05) and level of precision 5%

$$n = \frac{[z_{\frac{\alpha}{2}}]^2 \times p [1-p]}{d^2}$$

Where:

n= the minimum sample size

P= proportion of 20.7% of partograph recorded uterine contraction according to standard

$Z_{\frac{\alpha}{2}}$ = value of a standard normal distribution score 1.96(95% confidence level for two side)

α = level of significance of 0.05

d= Margin of error of 5%

Therefore, $n = (Z \alpha/2)^2 P (1-P) /d^2 = 252$

Since estimated delivery service users were less than 10,000 the population correction formula was applied.

$$n = \frac{n_0}{\left(1 + \frac{n_0}{N}\right)}$$

Where, $n_0 = 252$ and $N = 3,876$

n=237 taking into consideration a 10% non-response rate, the final sample size calculated was **261**.

For qualitative part : one hospital head ,eight health center heads ,nine delivery ward team leaders and nine drug store keepers were purposively selected as key informants.

4.6.2 Sampling techniques

Quantitative

Total Sample was allocated to all public hospital and health centers[N=9] found in the town and the surrounding district proportional based on the average number of women who gave birth the previous year for one month in each public health facility[see figure 2]. Data was collected from every (consecutively) woman who received delivery care in those health facilities till the proportional sample size allocated for each facility was reached. Study subject who refused to participate in the study were considered as non-respondent.

Qualitative

Twenty seven in-depth interviews were conducted with purposively selected key informant from public health facilities (7 HO and 2nurses the head of the facilities, 9(7 midwifery and 2 nurses) the head of the case team & 9 pharmacy technician were included). For in-depth interview, semi structured interview guide was prepared and the interviews were conducted by the principal investigator and one supervisor. The interviews were taken note and held in quit room.

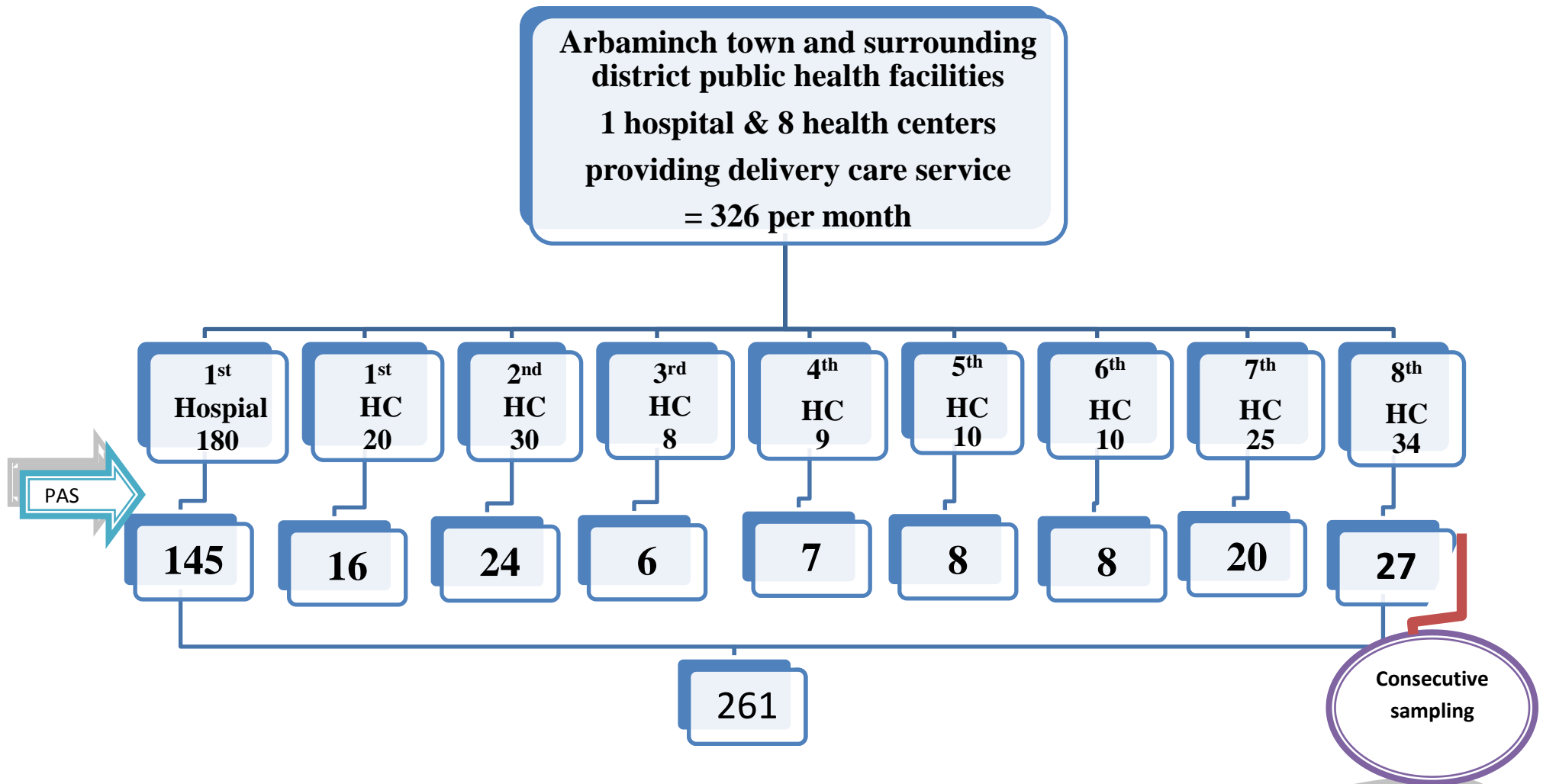


Figure 2 Schematic presentations of sampling procedure of Arba Minch town and the surrounding district public health facilities, 2013/14

4.7 Variables

4.7.1 Dependent variable

Quality of delivery service

4.7.2 Independent variables

Trained staff availability(human resource), qualifications of provider, infrastructure, referral system, Waiting, examination ,ward and room cleanness, cleanness of toilet, overall compound cleanness, availability of supplies & drugs, equipments, transportation, cost for service and waiting time, use of Partograph , respect to client, privacy, confidentiality, information provision, availability of infection prevention materials, infection prevention practices and Client related factor (age, educational status, residence, number of children, marital status, fetal outcome, maternal outcome, occupation, number of ANC visits , provider preference).

4.8 Data collection instrument and techniques

Quantitative data

A structured, pre-tested and interviewer administrated questionnaire .It was prepared first in English and translated into Amharic by independent translators and retranslated back to English to check for consistency. And partograph record review was done by using prepared check lists. The data collection tool was adapted from similar studies [37, 38, 50, 51, 52, 53, 54, 55, 59].

Qualitative

Qualitative data was collected using in-depth interview guide while check list was used for observation and record review of inventory drugs and supplies for the last 3 months. All public hospital & health centers were included for the observation/record review/ of infrastructure, human resource, means of transportation, drugs, supplies, equipments, infection prevention practices client provider interaction and infection prevention materials and compare with the standards and different literatures.

Pre test

One week prior to actual data collection, a pretest was conducted on 5% of the sample size in other health center that was not included in the main study, to ensure clarity of questions. Necessary modifications were made based on the result of the pretest before data collection.

Data collector and supervisor

Nine diploma holder in midwifery (recently graduated & unemployed) who have previous experience in data collection, fluent in Amharic and Gamo Gofa language were recruited for data collection while three Health officer were used as supervisors. Two days training was given for data collectors and supervisors, on the objectives of the study, the contents of the questionnaire, how to review partograph, the rights of respondents and issues related to the confidentiality of the responses.

4.9 Data entry & analysis

For quantitative study

After data collection, each questionnaire was checked for completeness and code was given during data collection. Data was edited and cleaned for inconsistencies, missing value and outliers. It was entered using Epi data program version 3.1 and exported for analysis to SPSS 20.0 statistical software. If outliers and missing values were found during data exploration, causes of outliers and missed values were determined and if unable to determine causes, variables with missing value(s) and outliers were dropped out from analysis. Partograph is a single sheet of paper which includes information about the fetus' heart rate, uterine contraction, any drugs used and other important factors that could help avoid extensive descriptive notes. It helps predict deviation from normal progress of labour, and supports timely and proven intervention [52] it was used to assess process part of labour. For client satisfaction there were 15 questions on a five point Likert scale with score values ranging from 1 (very dissatisfied) to 5 (very satisfied). Factor analysis was employed for likert scale questions to extract factor represented each of the scale which facilitate treatment of variable as continuous during further analysis. Assumptions are checked, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was >0.5 and Bartlett test of significance was significant at $p < 0.05$. Eigen value >1 was taken to select components.

All variables were checked for their communality value that is proportion of the variance in the original variables that is accounted for by the factor solution at >0.5 and variables those had <0.5 value was removed from analysis and repeat the procedure again and look loading. Finally variables were reduced to one component to measure client satisfaction towards delivery care service with Cronbach's Alpha (reliability coefficient) value of 0.973. For the overall satisfaction level, those who were satisfied in greater or equal to factor mean score of the items were categorized under “satisfied” and those who were satisfied in less than factor mean score of the items were categorized as “un satisfied”. Descriptive statistics was computed for the study variables and Frequency distribution tables were used to describe most of the findings. Bivariate analysis was done to determine presence of statistical association between independent variables and client satisfaction. Variables with p-value less than 0.25 in bivariate analysis were candidate to enter in multivariate logistic regression model. The final model was fitted using backward conditional variable selection methods and Hosmer and Lemeshow Test model adequacy was 0.935. P value < 0.05 was statistically significant with client satisfactions and AOR ratio with 95% CI was used to explore magnitude of association between selected variables. For overall quality of delivery services the composite quality indices, which are weighted averages of indicators (structure, process and outcome), were calculated by using the weights assigned. For the purpose of evaluation decision making, the composite quality indices were compared with the agreed basis for judgment.

For qualitative study

For the in-depth interview, after the interview data was transcribed verbatim into English language. Then, similar responses were grouped and summarized based on thematic area or the key variables of the study. Finally, results of the qualitative study were presented triangulated with the quantitative results.

Quality delivery service

The resulting quality indices, which are weighted averages of indicators, expected to fall within 0 to 100 percent. Relative weights assigned for each indicator are shown in the below table

Indicators relevant matrix

Relative weights assigned to structure, process and out come

Dimensions/Indices	Weight
Quality structure	36%
Quality process	34%
Quality out come	30%
Quality delivery service index	100%
Quality structure	
Human resource	7%
Transportation	3%
Infrastructures	6%
Supplies	5%
Equipment	6%
Drugs	5%
Material for infection prevention	4%
total	36%
Quality process	
Proper use of partograph	10%
Client provider interaction	14%
Infection prevention	10%
total	34%
Quality out come	
Clients' satisfaction	30%

The final summary scores developed as composite quality indices was used to judge the level of quality based on the agreed basis for judgment shown in Table.

Basis for judgment

Composite indicator	Values	assessment
Sum of Structure, process and outcome	< 80%	Poor quality delivery service
Sum of Structure, process and outcome	80- 100%	good quality delivery service

4.10. Data quality assurance

The questionnaire was prepared first in English and translated into Amharic by independent translators and retranslated back to English to check consistency. The questionnaire was pretested in other area. Data collectors that had previous experience in data collection were used. Data collectors and supervisors were trained for two days on the objectives of the study, method of data collection, interview technique & context of questionnaire. Closer supervision was undertaken during data collection. Data was checked for completeness, accuracy and consistency by supervisors & principal investigator on daily basis. Problems faced were discussed over night with data collectors and the supervisors. Epi data double data entry system was used to assure quality of data.

4.11 Ethical Consideration

Ethical approval and clearance was obtained from the Ethical Clearance Committee of College of Public Health & Medical Sciences, Jimma University. Letter of cooperation to health facility was obtained from Gamo Gofa zone health office to town and the surrounding district health office after that letter of cooperation to the respective hospital and health centers was written by town and the surrounding district health office. Verbal consent was obtained from the hospital /health center heads, and delivery ward team leaders. Informed (verbal) consent was obtained from the study participants, while the study subjects right to refuse was respected by informing the purpose of the study and the confidentiality of the information prior to data collection. And also Identification of study participants by name was avoided and the interview was conducted in separate room/ screen/. To maximize confidentiality of responses, the staff was not present during the data collection time.

4.12 Dissemination plan

The findings of this study will be presented to Jimma University, distributed to Arba Minch town and the surrounding district Health office, respective hospital, health centers, zone health office, regional health office and to other organizations working on maternal and child health care. The findings may also be presented in different seminars, meetings and workshops. The paper will also be published in a scientific journal.

4.13 Operational definitions

Quality; Quality is a multidimensional concept, but in this study, it was measured in terms of structure, process and outcome for delivery care service provision. These indicators are:-

Structure refers to the conditions under which care is provided. Structural attributes in this study included; human resources (number, variety, qualification of professionals), material resources (infrastructure, drugs, equipment and supplies), cost for services and transportation.

Process: - is including infection prevention practice, client provider interaction and proper use of partograph by using record review of interviewed postnatal mother.

Infection prevention practices: - measured by 10 items that includes all staff routinely wash their hands before procedure , all staff routinely wash their hands after procedure, availability of written protocol for new staff infection prevention training, Written policies and procedures established for infection prevention and control , Conduct of regular reviews for infection control , infection prevention committee, infection prevention advice for patient, Soap available at all times for hand washing, Staff vigorously rubs hands with antiseptic and/or water before aseptic procedure such as vaginal examination and Wiping of surfaces was done immediately after each delivery in labour rooms.

Client provider interaction: - include privacy, confidentiality, information provision, respect to client by provider, history taking, perform physical examination, greeting client and ask client by name.

Confidentiality: any person not enters examination room during history taking time except with client permission.

Information provision: any information is given for client after physical examination findings.

Privacy: Whether the health provider used private room/ screen/drip for examination of labouring mother.

History taking: includes number of pregnancy, number of delivery, number of abortion, number of still birth, date of last menstrual period, when to start labour pain, any amniotic fluid leakage, frequency of labour pain, and previous history of delivery complication.

Respect: polite greeting staff treatment / for client by health care provider.

Physical examination: that includes abdominal examination (palpation, inspection, and auscultation) and vaginal examination.

Outcome: is client satisfaction, we measure client satisfactions by using likert scale.

Clean room: absent of dust, blood and cobwebs in the area.

Client/user: an individual using service.

Client satisfaction: -is the level of satisfaction that clients experience having used a service. It therefore reflects the gap between the expected service and the experience of the service, from the client point of view.

Client satisfaction was assessed using the following dimensions:-waiting time, information/education given, privacy during examination and delivery, payment for service, cleanness of toilet, health facility distance, respect by provider/ staff treatment of client /, waiting area cleanliness, bed cleanliness, examination room cleanliness, availability of drug and supply at facility, Over all cleanliness of facility, confidentiality in provider and over all delivery care given by provider.

For client satisfaction: **A Likert scale of used 5 point was used**

Waiting time: - a time between registrations and being seen by the provider.

Guidelines: Number of guidelines or protocols for infection prevention and delivery care at the facility.

Partograph provision measurement according to standard:

Standard protocols were defined based on the time interval as follows:-

- ♥ cervical dilatation, molding, descent of the presenting part and blood pressure monitored every four hours;

- ♥ fetal heart rate, maternal pulse and uterine contractions monitored every 30 minutes;
- ♥ Condition of the baby after birth should always be recorded on the card.

Records not meeting any one of the protocol standards or with parts misplaced/missing or inadequate for each parameter of the partograph will be judged as **substandard**,

Not recorded if no information will be documented on the parameters of the partograph or completely absent from the file and

Standard if all the criteria are met for each parameter on the partograph and the condition of the baby should also have been recorded in appropriate section of the partograph.

IEC materials: availability of flip charts, pamphlets and posters in the service delivery point.

Poor quality delivery service is the sum of weighted indices of structure, process and outcome items less than 80% considered as poor.

Good quality delivery service is the sum of weighted indices of structure, process and outcome items 80- 100%.

5 Result

All public health facilities found in Arba Minch town and surrounding district were included in the study and a total of two hundred fifty six postnatal mothers from nine public health facilities were interviewed; making a response rate of 98.1%.

5.1 Structure assessments

5.1.1 Infrastructure assessment

Among the health facilities 5 out of 9 were separate waiting (before delivery) room for labouring mothers, 9 facilities were separate delivery room and 7 out of 9 facilities were separate postnatal room. At time of observation 7 out of 9 delivery room were clean, 8 out of 9 postnatal room were clean and 5 out of 9 waiting room were clean. Over all separate room for delivery services out of 9 facilities, only one room 2 facilities, two rooms 2 facilities and three rooms 5 facilities. About cleanness of the facilities, only one room clean 1 facility, two room clean 3 facilities and three clean 5 out of 9 facilities. Availability and cleanliness of rooms, 5 out of 9 fulfilled more than or equal to 80% of the standard. Six out of 9 facilities toilet were clean and 6 out of 9 facilities placenta pit.

Among the health facilities 3 out of 9 running water available and All 9 facilities was water container (tanker).

5.1.2 Human resource

Among the health facilities 3 out of 9 fulfilled the minimum standard of the human resources. Twenty-five (37.31%) of the health professionals were working in hospital (**Table 1**)

Table 1 Distribution of human resources in Arba Minch town and the surrounding district of public health facility, Gamo Gofa zone, South Ethiopia, April 1st to 25th , 2014.

Health facility	Midwifery Available (standard)	Nurses Available (standard)	HO Available (standard)	Doctors Available (standard)	Gynecologist Available (standard)	Total
HF 001	1(6)	3(4)	0(1)	0(NA)	0(NA)	4
HF 002	6(6)	4(4)	1(1)	0(NA)	0(NA)	11
HF 003	6(6)	4(4)	1(1)	0(AN)	0(NA)	11
HF 004	0(6)	3(4)	0(1)	0(NA)	0(NA)	3
HF 005	0(6)	2(4)	0(1)	0(NA)	0(NA)	2
HF 006	2(6)	2(4)	0(1)	0(NA)	0(NA)	4
HF 007	2(6)	3(4)	0(1)	0(NA)	0(NA)	5
HF 008	0(6)	2(4)	0(1)	0(NA)	0(NA)	2
HF 0001	14(10)	6(3)	1(0)	2(1)	2(1)	25
Total	31	29	3	2	2	67

NA Not Applicable

5.1.3 Transportation and communication

From total of 9 facilities only 2 of them have their own ambulances but the others 6 used one ambulance with share for transporting laboring mothers to the health facilities.

Except one health facility majority of the facilities do not have landline telephones in the delivery ward for emergency purpose.

5.1.4 Necessary materials

5.1.4.1 Supplies

More than half 5 of the facilities fulfilled greater than or equal to the minimum standard of supplies. HIV kit and partograph paper were available in all facilities. While VDRL reagent and urine dipstick was found in 4 and 6 facilities respectively.

5.1.4.2 Drugs

Only 4 out of 9 health facilities fulfilled more than or equal to 80% of the minimum standard for drugs. Magnesium sulfate was found 6 facilities, where as oxytocine found in all facilities, ARV syrup and a tablet was found in 5 facilities, quinine tablet 4 of health facilities Vitamin K injection was present in two facilities while anti D was found only in one facility.

Majority of the key informant respondents said ... not get all requested drug & supplies from district and pharmaceutical fund and supply agency ...

5.1.4.3 Equipments

Out of nine 5 fulfill more than or equal to 80% of the minimum standard. Vacuum was found in 5 facilities and fetoscopes in all health facilities.

Some delivery case team leaders claimed that although they work in poor and unsupportive environments that are with limited equipment and supplies their work was never appreciated by their supervisors:

30 years old female midwife said '' (...) you know, it is very important to show appreciation and encourage people even by just calling them and acknowledging the work they do (...)''

5.1.5 Material for infection prevention

Only one facility fulfills the minimum standard of infection prevention materials. Autoclave was found in 2 facilities out of 9. Running water available in 3 facilities out of 9 and all of them has water container or tanker.

Others

All labour and delivery related payments were not covered by the client in all health centers but mothers who deliver in the hospital pay only for drug and other supply.

All facilities refer client with transport and health care provider and all health facilities were supervised before 02 months.

Motivation

Staffs need to be motivated, because they work under very difficult conditions. They do not do overtime which could help them earn extra money; hence, they are less motivated to work.

27 years old female midwife said '' ... they work for long hours and in a shift, sometimes a nurse is not relieved from duty because another staff has a problem and did not come on time. But given the nature of the job, the staff cannot just leave client behind, although she could be really tired and has to continue working. She otherwise could have gone home and do other income generating activities, but she cannot. Previously there was night duty & holyday payment, but now only holyday, Saturday and Sunday payment''

Table 2 Availability of infrastructure, supplies, equipment and drugs in public health facility of Arba Minch town and the surrounding district, Gamo Gofa zone, South Ethiopia, April 1st to 25th, 2014.

Variable	Number	Present
Availability of rooms		
one room	2	22.2
Two room	2	22.2
Three room	5	55.6
Cleanliness of the room		
one room clean	1	11.1
Two room clean	3	33.3
Three room clean	5	55.6
Availability of human resources		
Fulfill \geq 80% of standard	3	33.3
Fulfill $<$ 80% of standard	6	66.7
Availability & cleanliness of the infrastructure		
Fulfill \geq 80% of standard	5	55.6
Fulfill $<$ 80% of standard	4	44.4
Availability of supply		
Fulfill \geq 80% of standard	5	55.6
Fulfill $<$ 80% of standard	4	44.4
Availability of equipments		
Fulfill \geq 80% of standard	5	55.6
Fulfill $<$ 80% of standard	4	44.4
Availability of drugs		
Fulfill \geq 80% of standard	4	44.4
Fulfill $<$ 80% of standard	5	55.6
Availability of magnesium sulfate		
Yes	6	66.7
No	3	33.3
Availability of IP materials		
Fulfill \geq 80% of standard	1	11.1
Fulfill $<$ 80% of standard	8	88.9
Availability of IP guide		
Yes	1	11.1
No	8	88.9
Availability of incinerator		
Yes	5	55.6
No	4	44.4

5.2 processes

Partograph provision

For more than half 140(54.7%) of mothers who gave birth partograph was recorded. Out of this twenty one (8.2%) was followed in labour using partograph according to WHO standard. Among the parameters of maternal condition, cervical dilatation 95(67.9%) was recorded as WHO standard but decent was recorded only for 33(23.6%). Among the recorded partograph 126(90%) of them record only delivery summary (Table 3)

Table 3 Recording parameters of maternal and fetal conditions in public health facilities of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1st – 25th, 2014

Variable	Number	Percent
Partograph record		
Yes	140	54.7
No	116	45.3
Partograph record		
Standard	21	8.2
Sub standard	119	46.5
Not recorded	116	45.3
FHB recorded every 30 minute		
Not recorded	18	12.9
Substandard	44	31.4
Standard	78	55.7
Molding every 4hour		
Not recorded	65	46.4
Substandard	29	20.7
Standard	46	32.9
Cervical dilatation every 4 hour		
Not recorded	20	14.3
Substandard	25	17.9
Standard	95	67.9
Descent every 4 hour		
Not recorded	69	49.3
Substandard	38	27.1
Standard	33	23.6
Contraction every 30 minits		
Not recorded	15	10.7
Substandard	35	25.0
Standard	90	66.3
Condition of new born		
Yes	126	90.0
No	14	10.0

Majority of key informant recommended training for all delivery team staffs for the improvement of the quality delivery care especially BEmNOC because this training include all necessary things like proper record of partograph , women friendly care, how to give proper care (life saving care) to labour & delivering mothers...

Client provider interaction

Seventy nine (30.9%) of the respondents were observed interacting with the health provider which privacy maintained for 60(75.9%) and 62(78.5%) were greeted by the provider.(Fig. 3)

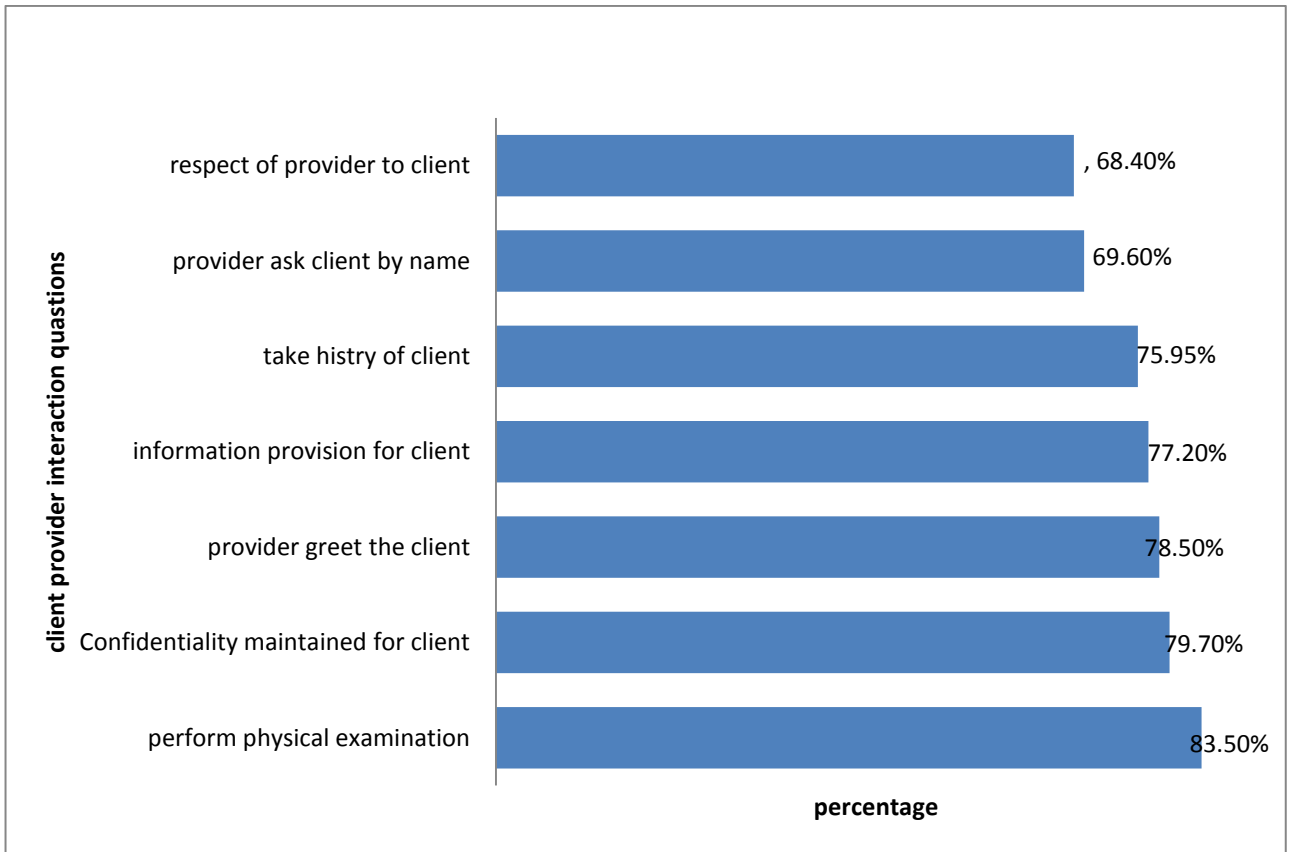


Figure 3 Client provider interactions in public health facility of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1st to 25th, 2014

Infection prevention practice

Less than half 2(22.2%) of the health facilities were practicing the minimum components of infection prevention practice (figure 4)

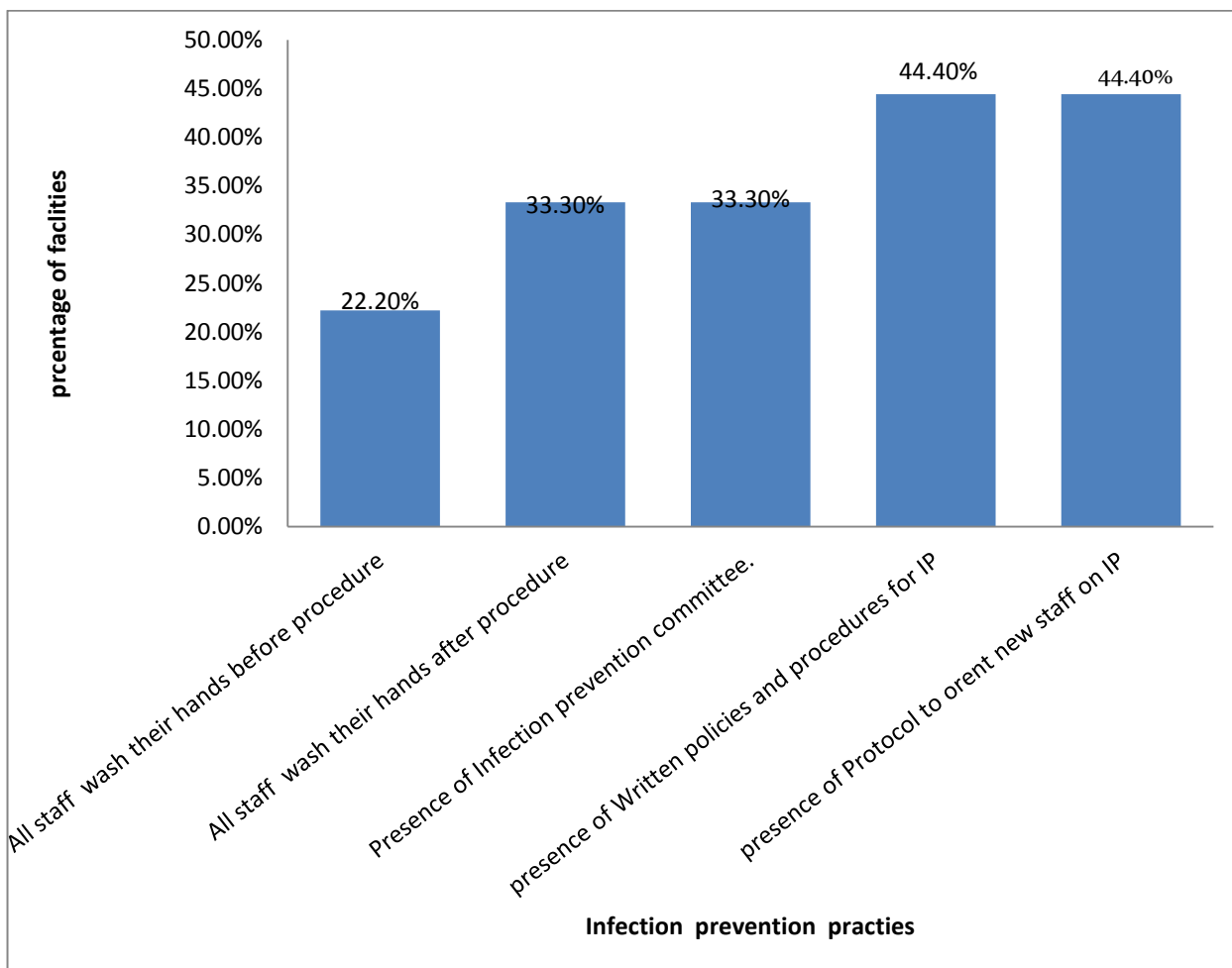


Figure 4 Infection prevention practice reported in public health facility of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1st to 25th, 2014

Except two facilities staffs (3 staffs) the rest did not take infection prevention in service or refreshment training.

5.3 Outcome

5.3.1 Socio demographic characteristics

A total of 256 women who gave birth in public health facilities of Arba Minch town and surrounding district were interviewed giving a response rate of 98.1%.

Two hundred thirty two (90.6%) were married, 201(78.5%) have five and less family members, 199(77.7%) were between the age of 20 – 34 years with the mean age of 24 ($SD \pm 5$) and more than half 145(55.9%) of them from urban. More than half of the mother 60(23.4%) were no formal education, 132(50.6%) protestant in religion, 151(59%)house wife in occupation and plan visit to facilities was 170(78.9%)(Table 4).

Table 4 Socio demographic related characteristic of the respondent in public health facilities of Arba Minch town and the surrounding district, Gamo Gofa zone, South Ethiopia, April 1st to 25th , 2014.

Variable	Number	Percent
Age of mother		
< 20	44	17.2
20 – 34	199	77.7
35 – 49	13	5.1
Educational status		
No formal education	60	23.4
1 – 8	84	32.8
9 -12	38	14.8
College and university	74	28.9
Religion of mother		
Orthodox	117	45.7
Protestant	132	51.6
Muslim	7	2.7
Marital status of mother		
Single	24	9.4
Married	232	90.6
Occupation of mother		
House wife	151	59.0
Government employer	56	21.9
Farmer	17	6.6
Student	21	8.2
Merchant	11	4.3
Family size		
Below or equal to 5	201	78.5
Above 5	55	21.5
How to came this facility		
Planned	170	78.9
Family/neighbor	32	12.5
Referred from other facility	54	21.1

5.3.2 Obstetric and gynecologic characteristics

One hundred forty four (56.3%) of the respondent attended the recommended four ante natal care and the pregnancy was planned for 184(71.9%). Majority of mothers have 187(73%) under 5 children of one, 237(90.6%) delivered by SVD, 147(57.4%) stayed in labour for less than 12 hours and 245(95.7%) delivered alive child. (**Table 5**)

Table 5 Obstetric and gynecologic related characteristics of respondent in public health facility of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April, 2014

Variable	Number	Percent
Parity		
One	124	48.4
Two to five	124	48.4
Above five	8	3.1
Number of Under 5 children		
One	187	73.0
Two	69	27.0
Last pregnancy was planned		
Yes	184	71.9
No	72	28.1
Ante natal care visit		
Less than four visit	112	43.8
Four and more	144	56.3
Duration of labor		
<12 hour	147	57.4
12-24 hours	71	27.7
>24 hours	38	14.8
During labour presence of support		
Yes	130	50.8
No	126	49.2
Type of delivery		
SVD	232	90.6
C/S	24	9.4
Immediate maternal bad outcome		
Yes	30	11.7
No	226	88.3
Newborn out come		
Alive	245	95.7
Death	11	4.3
History of abortion		
Yes	54	21.1
No	202	78.9

5.3.3 Health facility related factors

One hundred seventy four (68.0%) reported to have traveled less than one hour get to health facility, 138(53.9%) used public transport, 145 (56.6%) delivered in hospital and payed for drug and supply, and 173(67.6%) received care from female staffs, 183(71.1%) received care from midwifery staffs, 196(76.6%) waited less than or equal to 15minits to be seen by health care provider and for 140(55.7%) partograph was recorded to monitor labour (**Table 6**).

Table 6 Health facility related factors of the respondent in public health facilities of Arba Minch town and the surrounding district, Gamo Gofa zone, South Ethiopia, April 1st to 25th, 2014.

Variable	Number	Percent
Facility distance		
One hour or less	174	68.0
One to five hours	67	26.2
Above five	15	5.9
Way of transportation		
Ambulance	58	22.7
Waking	60	23.4
Public transportation	138	53.9
Waiting time to see by provider		
With in 15 minute	196	76.6
More than 15 minute	60	23.4
Are you payed for drug and supply		
Yes	145	56.6
No	111	43.4
Availability of drug		
Yes	244	95.3
No	12	4.7
Presence of prescribed drug		
All	184	71.9
Some	60	23.4
Care provider sex		
Female	173	67.6
Male	83	32.4
Place of delivery		
Hospital	145	56.6
Health center	111	43.4
Provider qualification		
Doctors	42	16.4
Midwifery	183	71.1
Other	31	12.1

5.3.4 Status of satisfaction

The factors mean score of mothers who were satisfied with delivery care in this study was 232(90.2%).Of all satisfactions score toilet cleanliness satisfactions score 63.7% and respect to client by health care provider satisfactions score 69.5% were the two least values.

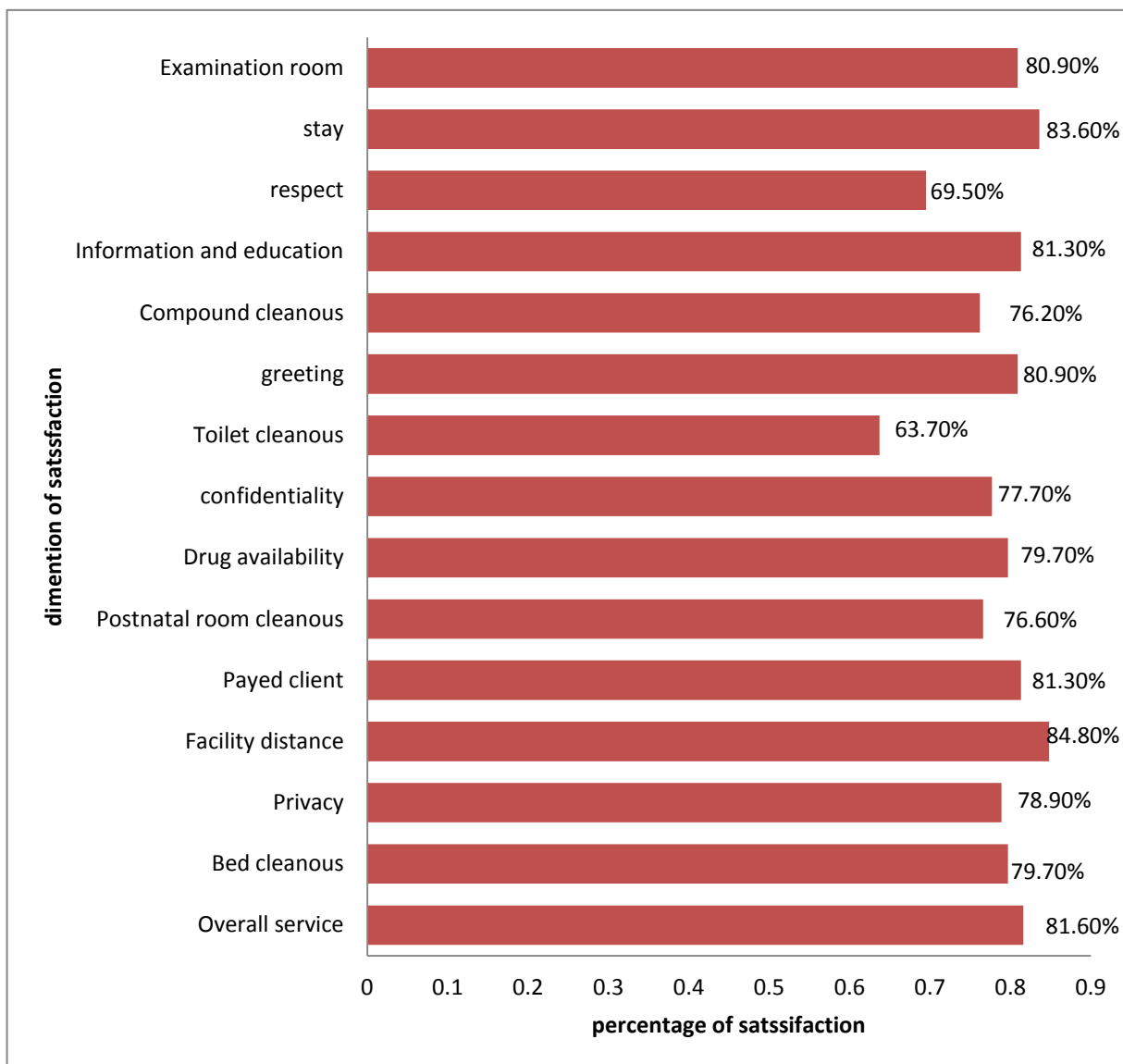


Figure 5 Major dimensions of care satisfaction scores by postnatal mothers delivered in Arba Minch town and the surrounding district, Gamo Goffa zone, April 1st to 25th, 2014.

5.3.5 Factors associated with client satisfaction

Bivariate analysis

Among the factors educational status, number of ANC visit, waiting time to get care provider, support person during labour, payment, newborn outcome, history of still birth, place of delivery and provider qualification were associated with client satisfaction in bivariate analysis. (Table 7)

Table 7 Factors associated with client satisfaction on delivery care in public health facility of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1st-25th, 2014.

Variable	Level of satisfaction		COR(95% CI)
	Satisfied No (%)	Unsatisfied No (%)	
Age of the mother			
<20	39(88.6%)	5(11.4%)	1
20 – 34	179(88.9%)	20(10.1%)	1.15(0.406,3.244)
35 – 49	13(100%)	0(0%)	20711(0.000)
Educational status			
No formal education	58(96.7%)	2(3.3%)	6.77(1.473,31.091)*
1-8	81(96.4%)	3(3.6%)	6.30(1.733,22.906)*
9-12	32(11.6%)	6(25.9%)	0.68(0.436,3.550)
College & university	60(81.1%)	14(18.9%)	1
Marital status			
Single	22(8.3%)	2(8.3%)	1
married	209(91.7%)	23(9.9%)	1.211(0.267,5.481)
Occupation			
House wife	139(92.1%)	12(7.9%)	1
GO employer	48(85.7%)	8(14.3%)	0.518(0.200,1.343)
Farmer	16(94.1%)	1(5.9%)	1.381(0.168,11.333)
other	28(11.6%)	4(15.5%)	0.364(0.106,1.266)
Place of residence			
Urban	125(87.4%)	18(12.6%)	1
rural	106(93.8%)	7(6.2%)	2.181(0.877,5.420)
No of under 5 children			
One	169(90.4%)	18(9.6%)	1.060(0.422,2.661)
Two	62(89.9%)	7(10.1%)	1
Means of transportation			
Ambulance	54(93.1%)	4(6.9%)	1.897(0.609,5.904)
Waking	56(93.3%)	54(93.1%)	1.967(0.633,6.115)
Public transport	121(87.7%)	121(87.7%)	1
ANC visits			
Less than 4	95(84.8%)	17(15.2%)	1
4 and more	136(94.4%)	8(5.6%)	3.042(1.262,7.336)*

Variable	Level of satisfaction		COR(95% CI)
	Satisfied No (%)	Unsatisfied No (%)	
Waiting time			
Within 15minit	181(92.3%)	15(7.7%)	2.413(1.002,5.699)*
> 15 mint	50(83.3%)	10(16.7%)	1
Duration of labour			
< 12 hours	136(92.5%)	11(7.5%)	1.455(0.436,4.851)
12-24 hours	61(26.8%)	10(14.1%)	0.718(0.209,2.463)
> 24 hours	31(90.2%)	4(10.7%)	1
Presence of support person			
Yes	123(94.6%)	7(5.4%)	2.929(1.178,7.279)*
No	108(85.7%)	18(14.3%)	1
Type of delivery			
SVD	210(90.5%)	22(9.5%)	1.364(0.377,4.939)
C/S	21(87.5%)	3(12.5%)	1
Payment status			
Yes	123(84.8%)	22(15.2%)	1
No	108(97.3%)	3(2.7%)	6.439(1.875, 12,11)*
Care provider sex			
Female	157(90.8%)	16(9.2%)	1.193(0.504,2.826)
Male	74(89.2%)	9(10.8%)	1
Place of delivery			
Hospital	123(84.8%)	22(15.2%)	1
Health center	108(97.3%)	3(2.7%)	6.439(1.875,22.110)*
Provider qualification			
Doctor	35(83.3%)	7(16.7%)	1
Midwifery	171(93.4%)	12(55.2%)	2.850(1.048,7.751)*
other	25(11.6%)	6(13.8%)	0.833(0.250,2.781)

*P-value < 0.05

1- reference category

Multivariate Analysis

All twelve variables with P value less than 0.25 in bivariate analysis were included during multivariate analysis. Stepwise selection (backward) method was used to identify independent predictors of client satisfaction the model was fit to hosmer and lemeshow test of 0.935.

Educational status[AOR =8.00 ,95%CI =(1.52,42.27)] Women's not attending formal education were 8 times more likely to satisfied than those joining college and university , number of antenatal visit[AOR = 5.00, 95% CI = (1.76,14.20)] those women's attending the recommended ANC visit were 5 times more likely to satisfied than those follow below the recommended visit , waiting time to get health professional[AOR= 3.37,95% CI =(1.14,9.97)] those waited less than 15 minutes were 3 times more likely to satisfied than those waiting for longer time and payment status [AOR= 6.19, 95% CI= (1.34,28.59)] the level of satisfaction is also related to the payment status, nonpaying clients were 6 times more likely to satisfied than paying clients from twelve only four was independently associated with client satisfaction. The rest place of resident, family size, means of transportation, support person during delivery time in addition to health care provider ,immediate maternal outcome with complication ,previous history of still birth, place of delivery, provider qualification was not associated with client satisfaction in multivariate analysis.

Table 8 Independent predictor of client satisfaction on delivery care in public health facility of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1st -25th, 2014

Variable	Level of satisfaction		COR(95% CI)	AOR(95% CI)
	Satisfied No(%)	Unsatisfied No(%)		
Educational status				
No formal education	58(96.7)	2(3.3)	6.77(1.47,31.09)*	8.00(1.51,22.27)*
1-8	81(96.4)	3(3.6)	6.30(1.73,22.91)	4.36(0.99,19.282)
9-12	32(84.2)	6(15.8)	1.24(0.436,3.55)	1.071(0.31,3.76)
College & university	47(23.7)	27(46.6)	1	1
ANC visit				
Less than four	95(84.8)	17(15.2)	1	1
Four and more	136(94.4)	8(5.6)	3.04(1.262,7.34)*	5.00(1.76,14.20)*
Waiting time				
Within 15minit	181(93.3)	15(7.7)	2.41(2.55,5.70)*	3.37(1.14,10.00)*
> 15 mint	50(83.3)	10(16.7)	1	1
Payment status				
Yes	123(84.8)	22(15.2)	1	1
No	108(97.3)	3(2.7)	6.44(2.36, 9.85)**	6.19(1.34,22.59)*

Variable entered: education, residence, family sizcat, ANC cat, transportation, witting time cat, , support, payment, qualification, place of delivery, hx of still birth,obsretric immediate bad outcome

*P value < 0.05 1- reference group

Quality of delivery service

The overall quality of delivery service among public health facilities in Arba Minch town and surrounding district was 54.06%. This was calculated after assigning the relative Weight for structure (36%), for process (34%) and for outcome (30%) and the percent of those fulfilling the minimum requirement were considered & calculated. (Table 9)

Table 9 Assigned relative weights and the calculated weight of quality components in public health facilities of Arba Minch town and surrounding district, Gamo Gofa zone, South Ethiopia, April 1st to 25th, 2014.

Dimensions	Relative wt assigned %	Facilities Fulfill minimum requirement		Weight (%)
		Number	Percent	
Human resource	7	3	33.3	2.3
Transportation	3	3	33.3	1.0
Infrastructures	6	5	55.6	3.3
Supplies	5	5	55.6	2.8
Equipment	6	5	55.6	3.3
Drugs	5	4	44.4	2.2
Material for IP	4	1	11.1	0.4
Proper use of partograph	10	-	8.2	0.8
Client provider interaction	14	-	62.0	8.7
Infection prevention practices	10	2	22.2	2.2
Client satisfaction	30	-	90.2	27.06
Total	100			54.06

6. Discussion

This study assessed the status of quality delivery service at public health facilities of Arba Minch town and surrounding district using structural capacity, client provider interaction, and use of partograph, infection prevention practice, client provider interaction and client satisfaction. Some facilities were facing shortage of rooms to provide proper care and also most of them have shortage of human resource, basic medical equipment, drugs and supplies were compromise quality of care in all of the study facilities this is in line with studies conducted in Uganda, Albania, sub Saharan Africa & south Asia [2, 20, 15, 23] also it is consistent with studies conducted in different part of Ethiopia [25, 26]. However, this finding is inconsistent with study conducted in 18 different hospitals of Ethiopia that is more than 80% of drugs and supplies were fulfilled [27]. This difference is probably due to the study setting i.e. the later was conducted in hospital only.

Our study revealed high proportions of unrecorded parameters of labour on the modified WHO partograph monitoring of the progress of labour among public health facilities of Arba Minch town and surrounding district only 8.2% of women's were followed their labour according to modified WHO partograph but among the recorded partograph 15% were completed. This is comparable with a study conducted in Ethiopian hospitals 13% [27]. But which is lower than studies conducted in Kenya (41%) & Addis Ababa (<40%) [36, 52]. This is may be due to staff number most health professional prefers to work in cities than rural and most of the time in the hospital highly experienced persons.

Most components of client provider interaction were above 75% which is different from study conducted in Albania, Turkmenistan and Kazakhstan [20], inadequate attention paid to privacy and confidentiality of labouring mothers. This difference may be the Albania's study was conducted in hospitals but our study includes both hospital and health centers may be in hospital high case load comparing with health center. In this study reviled that providers performed physical examinations on 83.5% of labouring mothers, this is comparable with study conducted in rural Bangladesh 81.3% of patients for maternal care services [58].

This study showed that 2(22.2%) out of 9 facilities were practicing the infection prevention components this is higher than study conducted in south Nigeria (13%) [24]. This difference may be due to sample or facility number difference.

Regarding the presence of written procedures and guidelines 4(44.4%) of out of 9 facilities were found it is also higher than study conducted in India (5%) [47]. this is probably due to recent training on infection prevention in Ethiopia and may be due to sample or facility number difference.

The overall client's satisfaction of delivery service in this study was 90.2% .It is almost comparable with study conducted in wollayta (82.9)[37] but which is higher than study conducted in Amhara region (61.9%)[38] this difference may be due to study setting difference that study conducted only in referral hospital and methodological difference we used cut off point for satisfaction greater than or equal to factor score mean but both study used cut of point ≥ 75 percent of items satisfied considered as satisfied.

Women's not attending formal educational were more likely to be satisfied, it is true that when educational level increase awareness about the quality service increase so their expectation also high & not satisfied with minimum compromise to the care. This is in line with study conducted in southern Ethiopia [37]. Nevertheless no association was observed in study conducted in Amhara region [38].

It is the fact that the number of visit to the health facility increase adaptation to the environment and bonding with the care also increase so those women attending the recommended ANC visit were more likely to satisfied, However, there is no association revealed in the studies done in different part of Ethiopia [37, 38].this difference may be due to ANC visit classification difference.

The level of satisfaction is also related to the payment status, nonpaying clients were more likely to be satisfied than paying clients. This is in line with a study conducted in Amhara region [38]. This may be related to the fact that their expectation of the service payment be free in health facilities to drug and supplies for delivery service decrease worries about their economic status difference which may increase the satisfaction level.

Association with waiting time to be seen by health care provider were those wait less than 15 minutes were more satisfied than those waiting for longer time which is consistent with study conducted in Amhara region [38].

Quality of Care is said to be of high quality if it is effective, safe, centered on the client's needs and given in a timely fashion [7]. In this study the quality of delivery service was much more lower than the national acceptable figure proposed by Performance and quality improvement standard, 2012 Ethiopia version 1 that give recognition for those fulfill 80% of the standard but our finding revealed only 54.06% [67]. This is in line with the study conducted in 18 Ethiopian hospitals [27], but in this study not used composite indices to conclude poor only put by words.

Strength and limitation

Strength

- Use of both qualitative and quantitative method of data collection
- Pre tested data instrument.

Limitations

- This study was not including labour and delivery skill assessment except client provider interaction.
- Literature on quality delivery service scars. The development of scientifically valid and reliable maternal quality of care instruments in 2010 in progress, with 5 key phases: Conceptualization, Evidence-based design, External review, Field testing, and Consolidation (including development of composite scoring). The first two steps are close to completion essentially through desk-based work. The remaining three phases will involve collaborative fieldwork with partners in sub-Saharan Africa [5] because of this we faced scars of literature on preparing composite scores and comparisons for paper.
- Information bias.

7. Conclusion and recommendation

7.1 Conclusion

This study has tried to assess quality of delivery services by using exit interview, observations, in-depth interview and resource inventory. Based on the findings the following Conclusions were made;-

Overall quality of delivery service falls far below recommended standards. Poor quality was observed at all health facilities.

Shortage of human resource, infrastructure, drugs, supplies, equipments, infection prevention materials and means of transport were observed in most health facilities

Unrecorded and very low correct partograph recorded were observed & also much lower infection prevention practices were observed but relatively good client provider interactions observed.

Level of satisfactions were compromised by level of education, number of ANC visits, waiting time to be seen by health providers and payment for drugs and supplies for delivery service.

7.2 Recommendation

Based on the above findings, the following recommendations were forward for the respective bodies.

Ministry of health

- MOH should assign ambulance to all health facilities.
- MOH with partners could give in-service training include a stronger emphasis on correct use of partograph and infection prevention practices.

Institutions' of health (university and collages)

- Institutions' better strengthen in pre-service training on completion of partograph and infection prevention practices.

Region health offices

- The SNNPR better assign the health care provider according to the standard to the health facilities.

Head of service delivery points

- The facility heads with management body could avail necessary drugs, supplies and equipments for health facilities by using health care financing.
- The Hospital leader shall develop strategies to provide drugs and supplies free from payment for delivery mothers.

Health care provider

- The health care provider better to increase awareness creation to community on FANC visits.

Researchers

- The researcher should farther research conducted on including skill of labour delivery attaining (competency).

Reference

1. Donabedian A. Evaluating the Quality of Medical Care: the Milbank Quarterly. Milbank Memorial Fund, 2005; 83(4): 691–729
2. Brawley M. The client perspective: What is quality health care service? A literature review. Kampala, Uganda: Delivery of Improved Services for Health; 2000.
3. Institute of Medicine. Medicare: A Strategy for Quality Assurance.1990; 1available at <http://www.iom.edu/CMS/8089.aspx>
4. Maxwell RJ: Quality assessment in health. Br Med J; 1984, 288(6428):1470-1472
5. Bell and Avan. Developing a framework and instrument to assess the quality of delivery care: a work in progress. Executive Summary, 2010(5). Available at Impact, <http://www.immpact-international.org>
6. FMOH, Health Sector Development Program IV. 2010, Ethiopia Federal Ministry of Health
7. WHO, Toolkit on monitoring health systems strengthening service delivery. 2008, World Health Organization
8. Kesterton A.Cleland J, Sloggett A and Ronsmans C. Institutional delivery in rural India: the relative importance of accessibility and economic status. BMC; 2010, 10(30)
9. Kiguli J,Elizabeth E, Okui O, Mutebi A, Hayley M and William G. Increasing access to quality health care for the poor: Community perceptions on quality care in Uganda. Patient Preference and Adherence, 2009;3: 77-85
10. Stinson W, Bakamjian L, Huber SC, Silimperi D: Managing programs to maximize access and quality: lessons learned from the field. MAQ Papers, 2000; 1(3): 31-16
11. WHO, Maternal mortality ratio per 100 000 live births. 2010, World Health Organization Available at: <http://who.int/healthinfo/statistics/indmaternalmortality/en/index.html>
12. WHO/UNICEF/UNFPA, Maternal mortality in 2000. Estimates developed by the WHO, UNICEF and UNFPA. 2004, World Health Organization
13. UN, the Millennium Development Goal Report. 2011, United Nations
14. WHO, UNICEF, UNFPA, WORLD BANK: Trends in Maternal Mortality: 1990 to 2010. 2012, World Health Organization

15. Filippi V, Ronsmans C, Campbell OMR, Graham WJ, Mills A and Borghi J, et al. Maternal health in poor countries: the broader context and a call for action. *Lancet*, 2006; 368:1535-1541.
16. Ronsmans C, Graham WJ. Maternal mortality: who, when, where, and why. *Lancet*, 2006; 368:1189-1200
17. Central Statistical Agency (CSA) and ICF international. (2012) Ethiopia Demographic and Health Survey 2011, Addis Ababa, Ethiopia: CSA and ICF international
18. Mekonnen Y: Patterns of maternity care service utilization in Southern Ethiopia: Evidence from a community and family survey. *Ethiopian journal of Health and Development*, 2003;17(1):27-33
19. Rahman KMM, Sarkar P, Situation of maternal health care services in Bangladesh, *The Social Sciences*, 2009; 4(5): 503
20. Tamburlini G, Siupsinskas G, Bacci A, for the Maternal and Neonatal Care Quality Assessment Working Group (2011) Quality of Maternal and Neonatal Care in Albania, Turkmenistan and Kazakhstan: A Systematic, Standard-Based, Participatory Assessment. *PLoS ONE* 6(12): 28763
21. Lilian T, Karen M, Abu M, Bjorg E and Thecla W, Why give birth in health facility? Users' and providers' accounts of poor quality of birth care in Tanzania, *BMC*, 2013; 13(174)
22. Maman D and Pierre F, Human resources and the quality of emergency obstetric care in developing countries: a systematic review of the literature . *BMC*, 2009; 7(7)
23. Jonathan M , Jonathan R, Stuart L, Priya D, and Atul A, Access to essential technologies for safe childbirth: a survey of health workers in Africa and Asia. *BMC*, 2013; 13(43)
24. Okonofua F, Okpokunu E, Aigbogun O, Nwandu C, Mokwenye C and Kanguru L, et al. Assessment of infection control practices in maternity units in Southern Nigeria. *International Journal for Quality in Health Care*, 2012:1-7
25. FGAE, Assessment of Sexual and Reproductive Health and HIV Linkages, Ethiopia country assessment. 2011, Ethiopia Family Guidance Association

26. Beyene W, Jiral C, Sudhakar M: Assessment of Quality of Health Care In Jimma Zone, Southwest Ethiopia. *Ethiop J Health Sci.* , 2011; 21
27. USAID, MCHIP: Quality of Care for Prevention and Management of Common Maternal and Newborn Complications: A Study of Ethiopia's Hospitals. 2011. Available at www.jhpiego.org
28. Creel L, Sass J, and Yinger N. Overview of quality of care in reproductive health: definitions and measurements of quality, Population Council and Population Reference Bureau. *New perspectives on quality of care*, 2002; 1
29. Thematic Report: the Global Campaign for the Health Millennium Development Goals. 2011: 9
30. Mozlan J and Ortayli N, Social science Research initiative on quality of Care. An evaluation of quality of Maternity care in three Istanbul Updated January.
31. WHO, Making Pregnancy Safer: The Critical Role of the Skilled Attendant. 2004, World Health Organization
32. WHO, Beyond the Numbers: Reviewing Maternal Deaths and Complications to Make Pregnancy Safer. 2004, World Health Organization
33. FMOH, National reproductive health strategy, 2006 – 2015. 2006, Ethiopia Federal Ministry of Health
34. Gerein N, Green A and Pearson S,: The implications of shortages of health professionals for maternal health in sub-Saharan Africa. *Reproductive Health Matters*, 2006; 14(27):40-50.
35. Øystein E, Sidney N and Ole F. Human resources for emergency obstetric care in northern Tanzania: distribution of quantity or quality? *BMC*,2005; 3(5)
36. z. p. qureshi, c. sekadde- kigondu and s.m. mutiso: Rapid assessment of partograph utilization in selected maternity units in Kenya. *East African Medical Journal*, 2010
37. Bereket Y, Mulat T and Wondimagegn P. Mothers' Utilization Of Antenatal Care And Their Satisfaction With Delivery Services In Selected Public Health Facilities of Wolaita Zone, Southern Ethiopia. *international journal of scientific & technology research*, 2013; 2(2)

38. Azmeraw T, Desalegn Z and Yigzaw K : Mothers' satisfaction with referral hospital delivery service in Amhara Region, Ethiopia. *BMC* ,2011;11(78)
39. WHO, Prevention of hospital-acquired infections: a practical guide. 2002, World Health Organization
40. Anteneh T, Lambiyu T, Gutema K, Abraham G, Abayneh A, Balta B, et al. *Infection Control in Health Care Facilities*. 2005
41. Friedman C and Newsom W. *Basic Concepts of Infection Control* 2nd Edition. 2011
42. WHO. guidelines on hand hygiene in health care. 2009, World Health Organization
43. Vincent JL, Rello J, Marshall J, Silva E, Anzueto A, Martin CD et al. International study of the prevalence and outcomes of infection in intensive care units. *JAMA* ,2009; 302:2323–9
44. Allegranzi B, and Pittet D. Preventing infections acquired during health-care delivery. *Lancet* 2008; 372(1719)
45. Sepideh B, Benedetta A, Shamsuzzoha B, Benjamin E and Didier P Health-care-associated infection in Africa: Systematic reviews. *Bull World Health Organ*, 2011; 89(757)
46. Demisew A, Belachew T, Fitsum A: Surgical site infection rate and risk factors among obstetric cases of Jimma university specialized hospital, southwest Ethiopia. *Ethiop J Health Sci*, 2011; 21(2)
47. Rajesh M, Dileep VM, KV Ramani, Sheetal S and Julia H. *Infection control in delivery care units, Gujarat state, India: A needs assessment*. *BMC*, 2011; 11(37)
48. Ganesh D, Preventing Prolong Labor by Using Partograph. *journal of Gynecology and obstetrics*, 2007; 7(1)
49. Mathews JE, Rajaratnam A, George A, Mathai M, Comparison of two World Health Organization partograph. *Journal of Gynecology & Obstetric*, 2007; 96(2)
50. Studd J, Partograms and Nomograms of Cervical Dilatation in Management of Primigravid Labour. *B M J*, 1973; 4(5890): 451-55
51. Surekha T and Pooja J, The impact of use of modified WHO partograph on maternal and prenatal outcome. *IJBAR*, 2012; 3(4)

52. Engida Y, Berhanu D, Ayalew A and Nebreed F. Completion of the modified WHO partograph during labour in public health institutions of Addis Ababa, Ethiopia. *Reproductive Health*,2013;10(230)
53. Harriott EM, Williams TV, Peterson MR. Childbearing in US military hospitals: dimensions of care affecting women's perceptions of quality and satisfaction. *Birth*, 2005;32:(4)
54. Bazant ES, Koenig MA: Women's satisfaction with delivery care in Nairobi's informal settlements. *International Journal for Quality in Health Care* , 2009;21 (2):79-86
55. Delvaux T. Quality of normal delivery care in Côtéd'Ivoire. *African Journal of Reproductive Health* , 2007; 11(1)
56. Democratic Republic of Ethiopia/Population Census Commission (FDRE/PCC) (2008), Summary and Statistical Report of the 2007 Population and Housing Census: Population Size by Age and Sex , FDRE/PCC, Addis Ababa.
57. Peabody John W, Taguiwalo Mario M. Robalino David A. and Frenk Julio. Disease control priorities in developing countries: Improving the Quality of Care in Developing Countries
58. Jorge Mendoza Aldana, Helga Piechulek, Ahmed Al-Sabir. Client satisfaction and quality of health care in rural Bangladesh. *Bulletin of the World Health Organization*, 2001; 79 (6)
59. Liz C. Creel, Justine V. Sass, and Nancy V. Yinger, Client-Centered Quality: Clients' Perspectives and Barriers to Receiving Care Population Council and Population Reference Bureau New Perspectives on Quality of Care: No. 2, Population Council and Population Reference Bureau
60. Lisi, Anna, Dagim Aschenaki, and Fekadu Abebe, Assessment of Infection Prevention and Patient Safety Commodities in Ethiopia. 2012, USAID
61. Omar K , Getachew B T, Elizabeth N and Christopher G O. Quality of intrapartum care at Mulago national referral hospital, Uganda: clients' perspective. *BMC* , 2013; 13(16)
62. JHPIEGO, guidelines for health care facilities with limited resource

63. Shobha M., Jayprakash Kumar M.: Client's Perspective On Obstetric Care Received At 24x7 Primary Health Centers of A District Located In Western India. Innovative Journal of Medical and Health Science, 2013; 3(3) 136 – 139
64. KMOH, Safe Motherhood Demonstration Project Western Province, Approaches to providing quality maternal care in Kenya final report. 2004, Kenya Ministry of Health
65. WHO, integrated management of pregnancy and child birth. 2009, World Health organization
66. JHPIEGO: Performance and quality improvement standards for EMNC health center intrapartum care & infection prevention, February, 2012 draft Ethiopia, version 1

Annex

Consent form

My name is _____ I am working as data collector in this study to assess client satisfaction in delivery service and associated factors. Your name will not be written on this form and will never be used with any information you may tell me. You don't have to answer any questions that you don't want to answer and you may end this interview at any time you want. However, your honest answer to these questions is very important for the purpose of the study. We would very much appreciate your participation in this study by genuinely responding to the interviews. Would you be willing to participate? Verbal consent

Yes _____ no _____

Annex 1.

Questionnaire to assess socio demographic, level of client satisfactions and associated factors in public health facilities Arba Minch town and the surrounding district, 2014

Part I socio demographic character

NO		Age (yr)	Religion	Ethnicity	Educational status	Marital status	Occupational status	Place of residence	Family size	HH monthly income
101 to 109	Mother									

Educational status:

1. Unable to Read & write
2. Read & write only
3. 1st cycle (1-4)
4. 2nd cycle (5-8)
5. Secondary (9-10)
6. Preparatory (11-12)
7. 12+

Religion:

1. Muslim
2. Orthodox
3. Protestant
4. Catholic
5. Other

Ethnicity:

1. Gamo
2. Gofa
3. Zeyise
4. Konso
5. Derashe
6. Wolita
7. Others

Marital status:

1. Single
2. Married
3. Divorced
4. Widowed

Occupational status:

1. Non employed
2. Governmental worker
3. Farmer
4. Merchant
5. other specify

Residence

1. Urban
2. Rural

Part II obstetrics characteristics of the mother

No	Questions	Possible choices/Answers	skip Remark
201	Parity (number including the new baby)	1. One 2. Two to five 3. More than five	
202	Number of delivery in the last five years including the current	1. One 2. Two 3. More than two	
203	Is the last pregnancy planned	1. Yes 2. No	
204	Number of ANC follow up/visit	1. One 2. Two 3. Three 4. Four	
205	Reason for this visit	1. Planned delivery 2. family/neighbor 3. Referral delivery	
206	Walking time (hrs) from home to facility	1. < 1 hour 2. 1 – 2hour 3. 2 – 6 hours 4. > 6 hours	
207	transportation to facility	1. ambulance 2. with human support 3. waking	

		4.public transport	
208	At arrival How much time you Wait before seeing a doctor or a nurse	-----	
209	Duration of last delivery	1.<12 hrs 2.12-24 hrs 3.>24 hrs	
210	Who is provide support during labour in addition to health care provider	1. husband 2. family 3. neighbor 4. friend 5. only	
211	Mode of delivery	1.Spontaneous vaginal delivery 2.Assisted vaginal delivery 3.Caesarean section	
212	payment status for delivery service	1. paying(specify)_____ 2. free	
213	Obtain prescribed medications from the hospitals'/health center pharmacies	1.Yes 2.no	
214	Difficulty to locate different sections	1.Yes 2.No	
215	Immediate maternal condition after delivery	1.with complication 2.with out complication	
216	Fetal outcome	1.Live birth 2.Still birth	
217	Sex of the attendance at delivery	1.male 2. female	
218	Ever had neonatal death	1.Yes (how many)----- 2.No	
219	Ever had still birth	1.Yes (how many)----- 2.No Yes	
220	Number of abortions	1.Yes (how many)----- 2.No	

Part III Dimensions of care and satisfaction scores by mothers delivered in Public health institutions

N_o	Care dimensions	very dissatisfied	dissatisfied	neutral	satisfied	very satisfied
301	How are satisfied you with the Examination area cleanliness					
302	How are satisfied you with Waiting time to see health worker					
303	How are satisfied you with Courtesy and respect					
304	How are satisfied you with Information and education service					
305	How are satisfied you with Overall cleanliness of the facility					
306	The Provider's greeting was good and in a friendly way					
307	How are satisfied you with Access and cleanliness of toilet					
308	How are satisfied you with measure taken to Confidentiality and trust in providers					
309	How are satisfied you with Availability of drugs and supplies					
310	How are satisfied you with Waiting area cleanliness and comfort					
311	How are satisfied you with Cost paid to service					
312	How are satisfied you with Health facility distance					
313	How are satisfied you with measures taken to assure level of privacy during delivery					
314	How are satisfied you with Cleanness of bedding					
315	How are satisfied you with Overall delivery care					
316	Do you recommend this facility for others?					

Jimma University College of Public health and medical sciences

Check list to assess recording parameters of maternal and fetal conditions in public health facilities in Arba Minch town and the surrounding district, 2014.

Id. No. _____

Place of Delivery hospital/health center

Attendant at delivery ----- 1.Doctor 2.Midwife 3.Other

Part IV: Recording parameters of maternal and fetal conditions

No.	Variables	Response categories	Remark
401	Is partograph available?	1. yes 2. no	
402	If yes for Q.401 recorded	1.yes 2. no	
403	If yes for Q.402 check the listed below is written.		
403.1	Name of client	1. yes 2. no	
403.2	Gravida	1. yes 2. no	
403.3	Para	1. yes 2.no	
403.4	Was Card number recorded?	1. yes 2. no	
403.5	Was date of admission recorded?	1.yes 2. no	
403.6	Fetal heart rate monitored every 30 minutes is...	1. Not recorded 2.Substandard 3. Monitored to Standard	
403.7	Was the status of membranes recorded?	1.Yes 2. no	
403.8	Moulding monitored every four hours is....	1.Not recorded 2.Substandard 3.Monitored to Standard	
403.9	Cervical dilatation monitored every four hours is ...	1.Not recorded 2.Substandard 3.Monitored to Standard	
403.10	Descent of head monitored every four hours is...	1.Not recorded 2.Substandard 3.Monitored to Standard	
403.11	Hours (time) recorded is?	1.Yes 2.no	

403.12	Contraction per 10 min monitored every 30 minutes is	1. Not recorded 2.Substandard 3.Monitored to Standard	
403.13	Action line crossed	1.Yes 2.no	
403.14	BP monitored every four hours	1. Not recorded 2.Substandard 3.Monitored to Standard	
403.15	Delivery summery written	1.Yes 2.no	

Observation check list for client provider interaction

PART 5 Clients-Provider Interaction		
501	Does the provider call a client by name?	1 Yes 2. No
502	Does Provider greet a client?	1 Yes 2. No
503	Is the provider polite enough/respect to client?	1 Yes 2. No
504	Does Provider take history as expected?	1 Yes 2. No
505	Does Provider Perform Physical examination?	1 Yes 2. No
506	Does Provider inform client about her findings?	1 Yes 2. No
507	Does the provider try to keep client privacy?	1 Yes 2. No
508	Does the provider try to keep client confidentiality?	1 Yes 2. No

IN-DEPTH INTERVIEW GUIDE

Dear respondent

My name is----- .I am working for research undertaking by Jimma University on quality delivery service among public health facilities in Arba Minch town and the surrounding district on different public health facilities to find ways of improving the delivery services. I would like to ask you some questions about delivery service of your facility. Please be sure that this discussion is strictly secreted, confidential and your name is not being recorded.

May I continue? Yes_____ No_____

Code of the respondent _____

1.1 For head of the health center/hospital facility

Sex _____ Age _____ marital status_____

Qualification_____

Service years/experience_____

1. How many trained staff do the facility has for delivery service provision? Based on qualification_____
2. What mechanisms does this facility use to update the knowledge and skills of delivery care service provider?_____
3. What was the date of the last “outside” supervisory visit? which included a review of delivery care services? _____
If yes, who and from where?_____
- If yes if there is give feedback-----
4. From where did you get delivery care service logistics? _____
Is the supply based on your request? _____
5. Any non-government organization supports your institution for delivery care service?
 1. yes 2.no
6. if yes mention they support _____
7. There is referral system with transportation for client? 1.yes 2.no
8. If referral system with care providers? 1.Yes 2.no

9. What do you suggest/recommend in general about delivery service improvement?

1.2 Information of department team leader

May I continue? Yes _____ No _____

Code of the respondents _____

Sex _____ Age _____ marital status _____

Qualification _____

Service years /experience _____

Health institution – Hospital/ Health central

Code of the health institution _____

1. How many years of experience in this institution's? _____ Year
2. For how many years have you been providing delivery service ? _____ Year
3. Is there a separate room or area for examination room? 1.Yes 2.no
4. Is there a separate room or area for delivery? 1.yes 2.no
5. Is there a separate room or area for postnatal? 1.Yes 2.no
6. How many staffs ever received in-service training in basic/compressive delivery care?

7. Do you think that the training your have received in delivery care is adequate to perform your duties? 1.Yes 2.no
8. What was the content of the training you and your colloquies received? -----

Mention content and number of staff taken training _____
9. What kind of training do you think that is important to improve delivery care service? (Practical/ theoretical?) _____
10. Is delivery care service integrated with other services? 1.Yes 2.no
11. if yes mention it _____
12. On-the-job training exists for infection control 1.yes 2. no
13. if yes for how many staffs _____
14. Protocol exists for training new staff on infection control. 1. Yes 2. no
15. Clients are advised on infection control 1. Yes 2. no

16. Written policies and procedures established for infection prevention and control. 1.yes 2.no
17. Conduct of regular reviews for infection control. 1. Yes 2. no
18. There is Infection control committee. 1. Yes 2. no
19. All staff routinely washes their hands before procedure? 1. Yes 2.no
20. All staff routinely washes their hands after procedure? 1. Yes 2. no
21. Soap available at all times for hand washing? 1. Yes 2.no
22. Staff vigorously rubs hands with antiseptic and/or water before aseptic procedure such as vaginal examination? 1. yes 2.no
23. Wiping of surfaces was done immediately after each delivery in labour rooms? 1.Yes 2.no
24. There is telephone for emergency? 1.yes 2.no
25. What thing you have used to improve delivery service? -----
26. What do you recommend/suggest in general for improving delivery care service?

1.3 For drug store keeper

1. From where did you get delivery service logistics? _____
2. Is the supply and drug based on your request? Yes/no
3. When you run out/stock out of supplies and drug? _____
4. For how long? _____
5. How much duration does it take to replace them? _____
6. What do you recommend in general improve drug and supply shortage? _____

Check list

Availability of the following items at the time of observation, if not available at the time of observation inventory review for last 3month's.

Name of Facility -----

Structural elements

4. Human resources in delivery ward

Qualification	Male	female	Total	Qualification	Male	female	Total
Midwives				Gynecologist			
Nurse				peaditrian			
HO				Anastasia			
Doctor				other			

5. Any transportation for delivery mother

1. Ambulance	yes	no	Other vehicle	yes	no
--------------	-----	----	---------------	-----	----

6. Environmental cleanness of institution

Waiting area protected from sun and rain yes no

Rooms	Clean	Not clean	Rooms	Clean	Not clean
delivery room			sterilization area		
Post partum room			Toilets		
Waiting areas			sinks		
Area for new born care					

7. Availability of drugs, supplies & equipment

Material	available	not available	material	available	not available
Adult weighing scale			Newborn wt. scale		
Thermometer			Stethoscope		
BP cuff			Refrigerator		
IV stand			Fetoscopies		
kit for episiotomy			examination lights		
Trolley			stretchers		
Tap measure			vacuum		
Aspiration apparatus			forceps		
HIV kit			delivery kit		
Blood group reagent			Bulb suction		
Hgb test			Watch		
Lidocaine injection			Sterile clamp		
Diclofenac			Over head heater		
Diazepam			Oxygen cylinder		
Magnesium sulphate			Anastasia general/local		
Methyldopa/ Hydralazine/ Nifedipine			CAF injection/tablet		

Ferrous sulphate			40% dextrose		
TT vaccine			Paracetamol tablet		
Vitamin K injection			Pethidine injection		
Ampcline/Amoxicillin			Oxytocin(ergometrin)		
Metronidazole tab/inj			Calcium gluconate		
T.T.C eye ointment			BCG		
Cut gut silk/chromic			Polio		
Plaster/tape			Gentamicine injection		
Syringe with needle			Cloxaciline tablet		
Spinal needle: Disposable			Ceftriaxone injection		
Episiotomy scissors			Surgical glove		
Suture needles			Disposable glove		
ARV syrup (AZT, neverapin)			Gauze		
ARV tablets			Cotton		
Anti D immunoglobulin			Butterfly needle		
Normal Saline			Cannula		
Ringer lactate			Catheter		
5% glucose/D/W			Operation room with instruments		
Distill water			Blood bank(for hospital)		
Examination Coach			Registration books		
Bed			Obstetric report format		
Quinine			Partograph		
VDRL reagent			Functioning Telephone		
Ferrous sulfate			Urine dipstick		

8. Infection Prevention and Patient Safety Commodities

Functioning sterilization equipment with power source for method:

Items	present	absent
Autoclave		
dry heat sterilization		
boiling and steaming		
chemical disinfection (chlorine base or glutaraldehyde solution),		
Written guidelines or protocols/		

Hand Hygiene Products

Items	present	absent	Items	present	absent
Bar soap			Glycerin 98%		
Liquid soap			Ethyl alcohol 70%		
Personal towel			Alcohol-based hand rub		
Hand lotions			Soft stick		
Nail brush			Scrub-up brush or sponge		
running water					
Water in container/tanker					

Personal Protective Equipment

Items	present	absent	Items	present	absent
Plastic apron:			Protective foot wear		
Heavy duty/utility gloves:			Protective eye wear		
Face shield			Face mask:		
Scrub suit:			Drapes:		
masks			Disposable gloves		
surgical gloves			Elbow-length gloves		

Safe Injection Devices

Items	present	absent	Items	present	absent
Disposable syringe with needle			Safety box/sharp containers		

Health Care Waste Management Commodities

Items	present	absent	Items	present	absent
Medical waste bins			Incinerator		
Placenta pit			Poster and charts relevant to infection control		

የስምምነት ቅጽ

ስሜ _____ ይባላል።

በጅም ዩንቨርሲቲ የህብረተሰብ ጤናና ህክምና ሳይንስ ኮሌጅ የድህረምረቃ ተማሪ ስለ ማዋልጃ አገልገሎት ጥራት ላይ በሚደርገው ጥናት መረጃ ሰብሳቢነኝ። ሥሞ አይፃፍም የሚሰጡት መረጃ በምስጢር ተይዞ ለጥናቱ ብቻ የሚውል ሲሆን ያልፈለጉትን ጥያቄ ያለመመለስና በመካከል ማቋረጥ ይችላሉ። ነገር ግን በታማኝነትና በግልጽፀኝነት የሚሰጡት መረጃ ለጥናቱ አላማ በጣም ጠቃሚ በመሆኑ ለሁሉም ጥያቄዎች ትክክለኛውን መልስ በመስጠት የበኩሎን ድርሻ እንዲወጡ እናበረታታለን።

መረጃውን ለመስጠት ፈቃደኛኖት? አዎ _____ ፈቃደኛ አይደለሁም _____

መረጃውን ሰጭዋ ተነባባቸው ካደመጡ በኋላ መስማማታቸውን ያረጋገጥኩ መሆኑን በፊርማዬ አረጋግጣለሁ።

ክፍል አንድ ማህበራዊ ነክ ማረጃዎች

NO	ዕድሜ	ሀይማኖት	ብሔር	የትምህርት ደረጃ	የጋብቻ ሁኔታ	ሥራ	የመኖሪያ ቦታ	የቤተሰብ ብዛት	የቤተሰብ ወርሃዊ ገቢ
101 to 109	የእናት								

- ሃይማኖት**
1. ኦርቶዶክስ
 2. ፕሮተስታንት
 3. ሙስሊም
 4. ካቶሊኪ
 5. ሌላ ይጠቀስ

- ብሄር :**
1. ጋሞ
 2. ጎፋ
 3. ዜይሲ
 4. ኮንሶ
 5. ደራሼ
 6. ወላይታ
 7. ሌላ ይጠቀስ

- የትምህርት ደረጃ**
1. መፃፍም ማንበብም አልቻልኩም
 2. መፃፍና ማንበብ እችላለሁ
 3. (1-8)
 4. (9-12)
 5. 12++

- የጋብቻ ሁኔታ**
1. አላገባሁም
 2. አግብቻለሁ
 3. ተፋተናል
 4. በሞት ተለይቷል
 5. ተለያይተናል

- ሥራ:**
1. የቤት አመቤት
 2. የመንግስት ተቀጣሪ
 3. አርሶአደር
 4. ነጋዴ
 5. ሌላ ይጠቀስ

- የመኖሪያ ቦታ**
1. ከተማ
 2. ገበያ

ክፍል ሁለት ከእርግዝና ጋር ተያያዥነት ያላቸው መረጃዎች		
201	ስንት ወለድሽ ያሁኑን ጨምሮ?	_____ ልጆችን ወልጃለሁ
202	ባለፈው አምስትአመት ውስጥ ያሁኑን ወለድ ጨምሮ ስንት ወለድሽ	_____ ልጆችን
203	የመጨረሻዎ ስርግዝናሽ ለመውለድ አቅደሽ ነው ያረገዝሽው	1. አዎ 2. አይደለም
204	በዚህ እርግዝናሽ የቅድመ ወሊድ ምርመራ ስንት ጊዜ ተከታተልሽ	_____ ጊዜ
205	ወደዚህ ጤና ተቋም ዛሬ የመጣሽው በማን ምክንያት ነው	1. በራስ ወሊድን አቅጄ 2. ቤተሰብ/ ጎረቤት አነሳስቶኝ 3. ከሌላ ጤና ድርጅት ተልኬ
206	ይህ ጤና ተቋም ከመኖሪያ ቤትሽ ምን ያህል ይርቃል(በሰዓት)	_____ ሰዓት
207	ወደዚህ ጤና ተቋም ለወሊድ ስትመጭ በምን መጣሽ?	1. በአምቡላንስ 2. በእግር 3. በቃረዛ በሰዓዊ ህይወት 4. በህዝብ ትራንስፖርት
208	ለወሊድ መጥተሽ የጤና ባለሙያዎች ለማግኘት ምን ያህል ጊዜ ቆየሽ?	_____ ሰዓት
209	በዚህ ወሊድ ምጥ ምን ያህል ሰዓት ቆየሽ?	_____ ሰዓት
210	በምጥ ጊዜ ከባለሙያ በተጨማሪ ማን አብሮሽ ነበር?	1. ባለቤቴ 2. ቤተሰብ

		3. ጎረቤት 4. ጓደኛ 5. ብቻዬን
211	የወሊድሽው በምንድን ነው?	1. በተፈጥሮ በባለሙያ በመታገዝ 2. በባለሙያና በመሳሪያ በመታገዝ 3. የሆድ ቀድጥገና ተደርጎ
212	ለወሊድ አገልግሎት ምን ያህል ክፍያ ፈፅመሻል?	1. አዎ (ምን ያህል) _____ ብር 2. በነፃ
213	በወሊድ ጊዜ የታዘዘልሽን መድኃኒት ከጤና ተቋሙ አግኝተሻል	1. አዎ 2. አላገኘሁም
214	የጤና ተቋሙ የተለያዩ ክፍሎችን ለማግኘት ያስቸግራል?	1. አወ. 2. አያስቸግርም
215	ወድያውኑ ከወሊድሽ ቦኋላ የተከሰተ የጤና መታወክ በአንቺ ላይ ነበር?	1. አለ 2. የለም
216	ከወሊድ ቦኋላ ልጅሽ በህይወት ነበርን?	1. አለ 2. ሞቷል
217	የወሊድ አገልግሎት የሰጠሽ የጤና ባለሙያ ይታ ምንድን ነው?	1. ሴት 2. ወንድ
218	ከዚህ በፊት ወልደሽ አንድ ወር ሳይሞላው የሞተሽ ህፃን አለ ?	1. አወ ካለ(ምን ያህል?) _____ 2. የለም
219	ከዚህ በፊት በማንኛውም ጊዜ አስወርዶሽ ያውቃል?	1. አወ ካለ(ምን ያህል?) _____ 2. የለም
220	ከዚህ በፊት በማንኛውም ጊዜ ሞቶ የተወለደ ልጅ አለ?	1. አወ ካለ(ምን ያህል?) _____ 2. የለም

	የአገልግሎት አይነት	በጣም አልረከሁም	አልረከሁም	ምንም	ረከቻለሁ	በጣም ረከቻለሁ
301	ምን ያህል በምርመራ ቤት ንጽህና ረከተሻል?					
302	የጤና ባለሙያዎች እስከሚያይሽ ባለዉ ሰዓት ምን ያህል ረከተሻል?					
304	ምን ያህል በተሰጠሽ ትምህርት እና መረጃ ረከተሻል?					
305	አጠቃላይ በግቢዉ ንጽህና ምን ያህል ረከተሻል?					
306	በባለሙያ ሰላምታ እና አቀራረብ ምን ያህል ረከተሻል?					
307	ምን ያህል በሽንት ቤት ቅርብ እና ንጽህና ረከተሻል?					
308	በሚስጥር አጠባበቅ ምን ያህል ረከተሻ ?					
309	በመድኃኒት ና ለወሊድ አግ/ት በሚዉሉ አቅርቦት ምን ያህል ረከተሻል?					
310	በማረፊያ ቦታ ንጽህና ምን ያህል ረከተሻል?					
311	በወሊድ አገልግሎት ክፍያ ምን ያህል ረከተሻል ?					
312	በጤና ተቋሙ ርቀት ምን ያህል ረከተሻል?					
313	ገመናሽ በመጠበቁ ምን ያህል ረከተሻል?					
314	በመኝታዉ ንጽህና ምን ያህል ረከተሻል ?					
315	በአጠቃላይ የማዋለጃ ክፍል እንክብካቤ ምን ያህል ረከተሻል?					
316	ሌላ ሰዉ እዚህ እንዲወልድ ትመክሪያለሽ ?	1 አዎን	2 አልመክርም			

በመመልከት የሚሞሉ

በወሊድ ጊዜ የእናትና ህጻኑን የጤንነት ሁኔታ መከታተያ ቼክ ሊሰጥ

401	የወለዱበት ጤና ድርጅት	1. ሆስፒታል 2. ጤናጣቢያ	
402	ያዋለዱት ባለሙያ	1. ሃኪም 2. ሚዲካል ሪፈራል 3. ሌላ	
403	ፓርቶግራፍ(Partograph) መሞላት ተጀምሯል (አለን)	1. አዎ 2. አይደለም	አዎ ከሆነ ከ 404 – 419 ያሉት መሞላታቸውን ያረጋግጡ
404	የደንበኛዋ ስም	1 አዎ 2 አይደለም	
405	ግራቪዳ(gravida) ተመዝግቧልን	1 አዎ 2 አይደለም	
406	ፓራ (Para) ተመዝግቧልን	1 አዎ 2 አይደለም	
407	ካርድ ቁጥር ተመዝግቧልን	1 አዎ 2 አይደለም	
408	ሆስፒታል የገቡበት ቀን ተመዝግቧልን	1 አዎ 2 አይደለም	
409	ሆስፒታል የገቡበት ሰዓት ተመዝግቧልን	1 አዎ 2 አይደለም	
410	የህጻኑ የልብ ትርታ(FHB) በየ 30 ደቂቃ ተመዝግቧልን	1. አልተመዘገበም 3. በአግባቡ ባይሆንም ተመዝግቧል 2. በአግባቡ ተመዝግቧል	
411	የሽርት ውሃው(amniotic fluid) ሁኔታ ተመዝግቧልን	1 አዎ 2 አይደለም	
412	ሞልዲንግ (molding) በየ 4 ሰዓቱ ተመዝግቧልን	1. አልተመዘገበም 3. በአግባቡ ባይሆንም ተመዝግቧል 2. በአግባቡ ተመዝግቧል	
413	የማህጸን በር አከፋፈት(cervical dilatation) በየ 4 ሰዓቱ ተመዝግቧልን	1. አልተመዘገበም 3. በአግባቡ ባይሆንም ተመዝግቧል 2. በአግባቡ ተመዝግቧል	
414	ዲሰንት(Decent) በየ 4 ሰዓቱ ተመዝግቧልን	1. አልተመዘገበም 3. በአግባቡ ባይሆንም ተመዝግቧል 2. በአግባቡ ተመዝግቧል	
415	መሞላት ከተጀመረበት ጀምሮ ሰዓት ተመዝግቧልን	1 አዎ 2 አይደለም	
416	በየ 30 ደቂቃው ቁርጠት (contraction) ተመዝግቧልን	1. አልተመዘገበም 3. በአግባቡ ባይሆንም ተመዝግቧል 2. በአግባቡ ተመዝግቧል	
417	ግራፉ እርምጃ (action line) መውሰጃ መስመሩን አቋርጧል	1 አዎ 2 አይደለም	
418	በየ 4 ሰዓቱ BP ተመዝግቧልን	1. አልተመዘገበም 3. በአግባቡ ባይሆንም ተመዝግቧል 2. በአግባቡ ተመዝግቧል	
419	የወሊዱ አጠቃላይ መረጃ ተመዝግቧልን	1 አዎ 2 አይደለም	

የደንበኛ እና የጤና ባለሙያ ቅርጽ/ ተግባራትን/ የሚመልከቱ

501	የጤና ባለሙያዉ ደንበኛዉን በስም ይጠራል ወይ?	1.አዉን	2.አይጠራም
502	የጤና ባለሙያዉ ደንበኛዉን ስላምታ ሰቶታል ወይ?	1.አዉን	2.አልሰጠዉም
503	የጤና ባለሙያዉ ለደንበኛዉን ትህትና አሳይቷል ወይ?	1.አዉን	2.አሳሳየዉም
504	የጤና ባለሙያዉ የደንበኛዉን ታሪክ በሥነ ሥርት ይወስዳል ወይ?	1.አዉን	2.አይወስድም
505	የጤና ባለሙያዉ የደንበኛዉን አካላዊ ምርመራ አድርግላታል ወይ?	1.አዉን	2.አላደረገለትም
506	የጤና ባለሙያዉ የደንበኛዉን አካላዊ ምርመራ ዉጤት ነግሮአል ወይ ?	1.አዉን	2.አልነገረም
507	የጤና ባለሙያዉ የደንበኛዉን ገመና ለመጠበቅ ይጥራል ወይ?	1.አዉን	2.አይጥርም
508	የጤና ባለሙያዉ የደንበኛዉን ሚስጥር ለመጠበቅ ይጥራል?	1.አዉን	2.አይጥርም

የስምምነትቅጽ

ስሜ _____ ይባላል።

በጅም የንብርስቲ የህብረተሰብ ጤናና ህክምና ሳይንስ ኮሌጅ የድህረምረቃ ተማሪ ስምን በማዋልጃ አገልግሎት ጥራት ላይ ያለውን ችግር ለመለየት ጥናት እያካሄድኩ እና መረጃ እየሰበሰብኩ ነዉ ። ሥሞ አይፃፍም የሚሰጡት መረጃ በምስጢር ተይዞ ለጥናቱ ብቻ የሚውል ሲሆን ያልፈለጉትን ጥያቄ ያለመመለስና በመካከል ማቋረጥ ይችላሉ። ነገር ግን በታማኝነትና በግልጽፀኝነት የሚሰጡት መረጃ ለጥናቱ አላማ በጣም ጠቃሚ በመሆኑ ለሁሉም ጥያቄዎች ትክክለኛውን መልስ በመስጠት የበኩሎን ድርሻ እንዲወጡ እናበረታታለን።

መረጃውን ሰጭዋ/ወ ተነባባቸው ካደመጡ በኋላ መስማማታቸውን ያረጋገጥኩ መሆኑን በፊርማዬ አረጋግጣለሁ።

ለሆስፒታል/ጤና ጣብያ ሀላፊ

ዕድሜ በዓመት----- የሙያ አይነት----- የጋብቻ ሁኔታ?-----

የአግ/ት ዘመን----- ጾታ-----

1. ለወሊድ አግ/ት ቡድን ምን ያህል ባለሙያዎች አሉ? (ከሙያቸው)-----
2. ማዋለጃ ክፍል ለሚሰሩ ባለሙያዎች የአወቀት እና የተግባር ለወጥ እንድያመጡ ምን አይነት ዘዴ ትጠቀማላችሁ -----

3. መች ነበር ከሌላ በታ መጥተዉ ድርጅቱን አይተዉ የሄዱት?-----
እነማን?-----
4. ለወሊድ አገልግሎት የሚያስፈልጋችሁን ቁሳቁስ ከየት ታገኛላችሁ?-----
የምትፈብጉትን ያህል ታገኝአላቸ ?-----
5. መንግስታዊ ያልህኑ ድርጅት ለወሊድ አገልግሎት ቡድን ይረዷቸዋል?-----ምን
ይረዷቸዋል-----?
6. ለወሊድ የመጣች እናት ለተሻለ ህክምና የምትልኩት ከናንተ መኪና/አንቡላንስ ነዉ? 1. አዉን 2. አይደለም
7. ለወሊድ የመጣች እናት ለተሻለ ህክምና የምትልኩት ከባለሙያ ጋር ነዉ? 1. አዉን 2. አይደለም
8. ለወሊድ አገልግሎት ለወጥ ለማምጣት ምን ያስፈልጋል ትላለህ/ሽ -----

ለማዋለጃ ክፍል አስተባባሪ

ዕድሜ በዓመት----- የሙያ አይነት----- የጋብቻ ሁኔታ?-----

የአገልግሎት ዘመን----- ጾታ-----

1. ለምን ያህል አመት ማዋለጃ ክፍል ሰራህ/ሽ ?-----
2. ለወሊድ ለመጣች እናት ምርመራ የተለየ ክፍል አለዉ? 1. አለዉ 2. የለዉም
3. ለወሊድ አገልግሎት መስጫ የተለየ ክፍል አለዉ? 1. አለዉ 2. የለዉም
4. ከወሊድ በኋላ ለማረፊያ የተለየ ክፍል አለዉ? 1. አለዉ 2. የለዉም

5. ምን ያህል ባለሙያዎች ቢሞክሩ ስልጠና ወስደዋል?-----
6. የወሰዳችሁት ስልጠና በቀን ወይ ብለሽ/ሀ/ ታምኛለሽ/ሀ/? 1. አዉን 2. አይደለም
7. ምን አይነት ስልጠና ሌላ የወሰዳችሁት አለ?-----ግለጽ ከነሰዎች ቁጥር-----

8. ማዋለጃ ክፍል ሰራተኞች ምን አይነት ስልጠና ቢሰጥ ጥሩ ነዉ ብለሽ/ሀ/ ታስቢያለሽ/ሀ/?-----

9	የማዋለጃ ስራ ከሌላ ስራ ጋር ተጣምሮ ይሰራል?	1.አዉን 2.አይደለም
10	ከምን ስራ ጋር?	
11	የክፍላችሁ /የቡድናችሁ/ ባለሙያዎች እንፈክሽን መከላከል እና መቆጣጠር ስልጠና ወስደዋል?	1.አዉን 2. አይደለም
12	አዉን ከሆነ ምን ያህል ሰራተኛ?	
13	አዲስ ሰራተኛ ሲመጣ የተዘጋጀ የእንፈክሽን መከላከል እና መቆጣጠር ማኑዋል/ፕሮቶኮል/ ይሰጣቸዋል?	1.አዉን 2. አይደለም
14	ደንበኞች ስለ እንፈክሽን መከላከል እና መቆጣጠር የምክር አገልግሎት ይሰጣቸዋል?	1.አዉን 2. አይደለም
15	የተጻፈ መረጃ አለ ስለ እንፈክሽን መቆጣጠር እና መከላከል ቢሮ ዉስጥ አለ?	1. አዉን 2. የለንም
16	ስለ እንፈክሽን መቆጣጠር ስብሰባ አላችሁ?	1. አዉን 2. የለንም
17	ስለ እንፈክሽን የሚቆጣጠር ኮሚቴ አላችሁ?	1. አዉን 2. የለንም
18	ሁሉም ሰራተኞች ከስራ በፊት እጃቸውን ይታጠባሉ?	1. አዉን 2. አይታጠቡም
19	ሁሉም ሰራተኛ ከስራ በኋላ እጃቸውን ይታጠባሉ?	1. አዉን 2. አይታጠቡም
20	ሁል ጊዜ እጅ ለመታጠብ ሳሙና ታገኛላችሁ?	1. አዉን 2.የለንም
21	እጃቸውን በዉሃ/ እና በኬሚካል ከምርመራ በፊት ይታጠባሉ?	1. አዉን 2. አይታጠቡም
22	እያንዳንዱ ሰዉ ከወለደ በኋላ ወዲያዉኑ ቤቱ ይጻዳል?	1.አዉን 2.አይጻዳም
23	ቡድኑ/ክፍሉ/ ለድንገተኛ ጥሪ ስልክ አላችሁ?	1.አለ 2.የለንም

24. ምን አድርጋችኋል ለማዋለጃ አገልግሎት ለዉጥ ለማምጣት? -----

25. የወሊድ አገልግሎት ላይ ለዉጥ ለማምጣትምን ያስፈልጋል ትያለሽ/ሀ/? -----

ለመዳሀኒት ክፍል ሰራተኛ ሀላፊ

1. ከየት ነዉ ለማዋለጃ አገልግሎት የሚሆን ቁሳቁስ የምታገኙት(መዳኒት፣ጻንት.....)
2. እቃዎች እናንተ የጠየቃችሁትን ያህል ይሰጣችኋል ወይ? 1. አዉን 2.አይ
3. ለማዋለጃ የሚያስፈልጉ ነገሮ አልቀዉባችሁ ያዉቃል? 1. አዉን 2.አይ
4. ለምን ያህል ጊዜ? -----
5. ምን ያህል ጊዜ ይወስዳል መልሶ ለማምጣት? -----
6. ምን ትመክራለህ/ሽ ለማዋለጃ አገልግሎት ጥራት ላይ ለዉጥ የሚያመጣ ነገር ?-----