

# **Technical Quality of Institutional Delivery Service in Jimma Zone, Southwest Ethiopia**

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# **Technical Quality of Institutional Delivery Service in Jimma Zone, South West Ethiopia**

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## **Abstract**

**Background:** *Quality services improve health outcomes by providing clients with respectful and technically sound services, delivered according to standard that was known to maximize their health impact. The key strategy to reduce maternal mortality ratio and improving maternal health is increasing quality of maternal health care including institutional birth service. In Ethiopia the proportions of births attended by skilled personnel is very much lower than sub-Saharan Africa. Only 16% of deliveries were attended in health facility at national level and 13% birth attended in Oromia region. One of the reasons for low utilization of institutional delivery was inadequate quality service. One of quality dimension is technical quality. But there was no evidence about the technical quality of Institutional delivery service in Jimma zone.*

**Objective:** *The aim of thesis study is to assess the technical quality of institutional birth service among public health centers and primary hospitals available in Jimma Zone and Town administration.*

**Methods:** *A facility based descriptive cross sectional study design was employed from February 29 – March 20 /2016 among selected 4 public primary hospitals and 13 health centers in Jimma Zone. A random sampling method was used for selecting 13(30%) of the health centers and All primary hospitals of Jimma Zone that were included in the study. A total of one hundred seventy two deliveries (53 from hospitals and 119 from health centers) with 92 observations during daytime and 80 observations during nighttime were observed in labor wards. Data were cleaned and entered into EPI-data version 3.1, then exported in to SPSS version 20 for descriptive analysis. Result was presented in descriptive statistics using tables and graphs.*

**Result:** *All primary hospitals and thirteen health centers gave response for the study making response rate 100%. The input survey result showed that the study facilities fulfilled 54% of physical setting, 74.5% of essential supply and equipment, 62% delivery room, 81.2% professional's availability in 17 health facilities. The total input shows 76%. The process survey result showed the technical practice was available in 11(67%) facilities and provider to client interaction was practiced in 108(63%) observation in 10 facilities. Both scored below the standard.*

**Conclusion:** *In majority of public health facilities, the technical practice and interpersonal skill on provider to client interaction practice were not carried out based on the standard guideline. This shows relatively there is adequate input to carry out technical quality service. But the functional process practice was not proportional to input. The overall facility structure, technical practice and providers to client interaction score were below the standard in majority of the health facilities. Therefore the technical quality care result in terms of input and process shows there is low quality. This shows facilities and respective organization have an assignment to fill the gap & to ensure technical quality in maternal health unit.*

**Keywords:** *Technical quality care, Institutional delivery service, Jimma Zone, Oromia Region, Southwest, Ethiopia*

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## **List of Abbreviations**

**ANC:** Antenatal Care

**APH;** Anti Partum Hemorrhage

**BEmOC;** Basic Emergency Obstetric Care

**CEmOC;** Comprehensive Emergency Obstetric Care

**DHS:** Demographic Health Survey

**EMDHS; Ethiopian Mini** Demographic Health Survey

**EMNOC:** Emergency Neonatal and Obstetric Care

**FMOH:** Federal Ministry of Health

**HC:** Health Center

**HF:** Health Facility

**HHRI:** Health and Health Related Indicator

**HSDP:** Health Sector Development Program

**JHPIEGO:** Johns Hopkins Program for International Education in Gynecology and Obstetrics

**LD;** Labor and Delivery

**ESO:** Emergency Surgical Officer

**LMICs;** Low Middle Income Countries

**MCH:** Maternal and Child Health

**MCHIP :** Maternal and Child Health Integrated Program

**MD;** Maternal Deaths

**SDG;** Sustainable Development Goal

**MM:** Maternal mortality

**MMR:** Maternal Mortality Rate

**MNCH:** Maternal, Neonatal and Child Health

**IMNCI:** Integrated Management of Neonatal & Child Illness

**PNC:** Post Natal Care

**PPH:** Post Partum Hemorrhage

**QI :** Quality Improvement

**LQAS:** Lots Quality Assurance Sampling

**QOC:** Quality Of Care

**RMC:** Respectful Maternity Care

**SSA:** Sub Saharan African

**UN:** United Nations

**UNDP:** United Nations Development Program

**WHO:** World Health Organization

**CSA:** *Central Statistics Agency*

## **Chapter One: Introduction**

### **1.1. Background of the Study**

Health care quality is a very difficult concept to define. It is still widely used in studies of health care quality because it places an appropriate emphasis on both individual and population levels of analysis, links health care services.

Quality of health care defined from different dimension .One of the comprehensive definitions of quality is the provision of adequate care and the services provided at the right time, in the right way, in the right place, for the right patient/clients, with the right outcome. And that are consistent with current professional knowledge in a technically competent manner, with good communication, shared decision-making(1).

Quality services improve health status by providing clients with respectful, confidential and technically sound services, delivered according to standard that are known to best use of their health impact. Although knowledge and experience in quality service improvement have accumulated globally over the last few decades, there are still knowledge gaps in terms of the most effective and sustainable approaches to improve quality services(2).

Quality in health care has three dimensions: technical quality,Service quality and Customer quality(3).

**Technical quality** of care is defined as the quality of care provided by a healthcare institution. Refers to the degree to which the care delivered meets scientific method and professional standards that are likely to maximize the service quality and minimize the risks in maternal health care(4,5). Actually technical quality related to standards of care has been established for its treatment. It deals with what the clients receive relative to what is known to be effective, and what reflects the issues related to the health care providers (3). Technical quality differs from condition to condition and shows how well health systems deal with the specific condition.

Technical quality also, has two main dimensions: the proper use of the services provided and care provider's skill. This included the physical setting of health facility, availability of health care professionals, availability and functionality of medical equipment, availability of essential drug, adherence to current evidence-based guidelines, interpersonal skill of health care professionals to provide practice of services, existence of institution initiated & routine quality assurance assessments(6).

The concept of effective coverage emphasizes the fact that only through delivering health care services of sufficient quality can health impact be achieved.

Several sub-Saharan African countries have increased their rates of antenatal care (ANC) and institutional deliveries, by improving quality service and they concern that maternal mortality rates have remained high suggesting that one of the most causes are poor technical quality(5).

There was no study related to technical quality of health care in Jimma zone. This was why the importance of technical quality care is the better strategy to maximize health care quality. Preventing maternal& child death will require to reach high levels of effective coverage with high-impact of Maternal, Neonatal and child health(MNCH ) interventions(5).

## **1.2. Statement of the Problem**

High quality care is crucial in ensuring that women and newborns receive interventions that may prevent and treat birth-related complications(4).Maternal mortality (MM) remains a major challenge to health systems worldwide. MM was estimated to be 358,000 maternal deaths worldwide in 2008. More than 50% of all maternal deaths were only from six countries in 2008 [India, Nigeria, Pakistan, Afghanistan, Ethiopia, and the Democratic Republic of Congo &Sub-Saharan Africa (SSA) and South Asia accounted for 87% of global maternal deaths(7). In SSA, a woman's risk of dying from treatable or preventable complications of pregnancy and childbirth over the course of her lifetime is 1 in 22, compared to 1 in 7,300 in the developed regions(8).

According to the Ethiopian Demographic Health Survey (EDHS) 2011, the estimated maternal mortality ratio was (676/100,000 live births).The most important factor in reducing maternal and early neonatal mortality is the attendance of a skilled provider at birth. Increasing the proportion of births delivered in a health facility under the supervision of health professionals are important to lowering health risks among mothers and children (10).According to EDHS 2011survey the institutional delivery service utilization were 10%(9).

The recent study in UN estimate that the proportion of mothers who were dying to give 100,000 live births has declined to 420 in 2013 from 1400 in 1990. An assessment conducted by WHO, UNICEF, UNFPA and the World Bank in2015 shows the maternal mortality in Ethiopia was estimated 353 per 100,000 live births(11).

Recent trends in addressing quality of care (QOC) have taken a system view of the production of quality services, acknowledging that health care delivery occurs as part of an interaction between a health care provider and the client and community. provider performance is affected and motivated by a wide range of factors in the provider's immediate environment, and the health system is responsible for providing inputs and processes that service providers need to deliver technical quality services, including infrastructure, supplies, supervision, and management(12).

In sum, these findings highlight the need for health managers and policy makers to balance Efforts towards technical quality improvement, such as attitudes of staff, timeliness of care and client support systems which clients receive as important indicators of quality healthcare. The low performance of institutional delivery service shows that there was in adequate provision of quality service. There for assessing technical quality is important in institutional delivery service (12).

While acknowledging the importance of technical quality care standards, there was also the tendency for it to be over emphasized by health managers and policy makers to the neglect of non-technical quality care dimensions which do not often take much resources and efforts to Improve intensified client education, engagement and client-friendly quality improvement interventions could help to link these technical quality care gaps(13).

The national Health Sector Transformation Plan HSTP (2008-2012) set the strategy focus on quality issue to improve quality health services. Technical quality have been recognized as key issues in establishing and delivering accessible, effective and responsive health systems. It was expected that better and equitable accessibility to quality health services were lead to improvements in the health of mothers(14).One of the Sustainable Development Goal (SDG) in health sector is to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030(15).This expectation show that the SDG focused on high quality service utilization.

Technical quality is one of the quality service dimension and it provided, the availability of essential drugs and equipment, access to health care providers, and service providers' attitudes towards mothers are also factors impacting on the utilization of institutional delivery services(16).According to EMDHS 2014 study Sixteen percent (16%)of births in Ethiopia were delivered at a health facility.

In the same period in Oromia region, only13% delivery service assisted by skilled attendance in the year 2014.This was also lower than the national level(17).Evidence suggests that the most important

factor in reducing maternal and early neonatal mortality is the attendance of a skilled provider at birth(18).The main strategy to improve skill birth attendance at facility were ensuring quality service in institutional delivery.

Due to of low institutional delivery service coverage in Oromia region the technical quality improvement in the provision of MNCH services in the study area is a essential approach for improving institutional delivery service and reducing maternal mortality (19).

### **1.3. Significance of the study**

One of the major strategies to reduce the maternal mortality is institutional delivery service management and risk identification is managed by skill professionals. Proper management of skill delivery service leads to insure quality services. In Ethiopia the proportions of births attended by skilled personnel is very much low, including in Oromia region (20).

The reason why Health Sector Transformation Plan (HSTP) focus on quality in health systems, that quality remains a serious concern and the maternal mortality could have been reduced if women have a basic quality care services(14).

Technical quality is one of the tools for measuring quality. Assessing technical quality of institutional delivery service utilization in the study area were very important to improve quality of maternal health services and reducing maternal and infant death(6).

The purpose of this study is to investigate the technical quality of care measures on institutional delivery service in Jimma Zone.

- The results of the study will be used for policy makers, Managers and planners for their taking corrective action related to, planning and implementation of institutional delivery service program to achieve the SDG.
- The recommendation from the study finding will be used by respective facility managers to make decisions for improving technical quality service in their routine activities.
- This study could be used as a baseline for further study on institutional delivery service.

## **Chapter Two: Literature Review**

Quality healthcare is measured by one of the dimension of technical quality referring to

Structured processes and professionally defined practices and protocols of care while the latter largely focused on health care provider interpersonal care related variables to “measure” quality healthcare.

The technical qualities of care measured by standardized structure, technical practice and interpersonal skill, which is the interaction between provider to client Access to good technical quality care in maternal health remains a big challenge to reduce maternal mortality(22).

Globally, at least 585, 000 women die each year by complications of pregnancy and child birth due to in adequate quality services(22). More than 70% of all maternal deaths are due to five major complications: hemorrhage, infection, unsafe abortion, hypertensive disorders of pregnancy, and obstructed labor. The majority of maternal deaths (61%) occur in the postpartum period, and more than half of these take place within a day of delivery which could have reduced by good quality of care(19).The major causes of maternal deaths in Ethiopia are similar to most developing countries: infection, hemorrhage, obstructed labor, abortion and hypertension in pregnancy(21).

The proportion of MD ascribed to the different causes varies from year to year. This is due to the quality of care provided by a healthcare institution, inadequate infrastructure in the health system, availability and functionality of medical equipment, availability of medications, availability of current evidence-based guidelines & routine quality assurance assessments is one of the issue concerns about maternal death(23).

### **Physical Infrastructure of Institutions**

The study done in Indian Hospitals had an operation theatre, a labor room and a casualty room. All of them had a generator of their own and 24 -hour water supply.

All the CEmOC and BEmOC facilities had an operation theatre and a labor room. All of them had 24-hour water supply, electricity and telephone. Three CEmOC facilities had a generator All have available referral system, supplies, equipment and trained personnel (19).



Limited numbers of qualified staff, clinical mismanagement of care for mothers and new born, , drug shortages, missing supplies, and lack of equipment will cause for maternal mortality among women who seek care in a health care institution(19).

The study conducted in Sub-Saharan Africa facility delivery rates were higher in areas of increased number of professionals in the facilities and effects on facility utilization by number of health workers, infrastructure, or presence of obstetric equipment. All have BE mOC and CEmOC facilities but they didn't have adequate supplies for a long time (19).

The availability of infection prevention supplies in the delivery room varied by resource, but these items were generally available (above 64%) in all six countries. Soap and piped water and clean or sterile gloves were the commodities that were most of absent(21).

The study conducted in Indian health Institute shows that direct observation was used to determine when use of the partograph was initiated and whether it was used to track the progress of labor in real time(24). Record review following delivery was used in the survey countries to determine what information was recorded on the partograph and whether it was filled out completely and correctly. The record review indicated that partograph use ranged from a low of 12.8%–27.2% of births observed (Ethiopia, Madagascar) to a high of 83.6%–88% of births observed (Kenya, Rwanda). However, the partograph were not correctly completed in a majority of cases in any country, and in many cases they were completed only after delivery. Paper partographs were available in the two countries with the lowest partograph use (84.2% of facilities for Ethiopia and 67% for Madagascar)(24).

The study shows in India to measure the relation& communication in between care providers and women approaches to maintaining confidentiality of personal information and personal privacy were assessed through observations of provider/client interactions in LD settings. During the initial assessment of labor, most providers displayed relatively poor communication with women in labor; aside from the initial respectful greeting (which occurred in an average of 75% of cases)(6).

The quality of care surveys observed in American Academy provider practices and tested provider knowledge of the essential elements of immediate newborn care.(Thermal care, cord care, and breastfeeding within the first hour of birth(25).

The study conducted in Sub-Saharan African shows; appropriate practice of clean cord care was observed in the majority of countries (average of 93%, range of 71%–100%). There was wide variation in the practice of delayed cord clamping (range of 32%–93%). Early initiation of breastfeeding was also uncommon; on average, 37% of newborns were breastfed within the first hour after birth. Kenya was a notable exception(21).

The study conducted in six Sub-Saharan countries shows the results of observations of newborn resuscitation simulations indicated the need for continued professional development to promote retention of skills. The correct protocol for the actual ventilation procedure was documented in less than 34% of observations across all countries(21).

The study done on levels and determinants of use of Institutional delivery care services. In Ethiopia mentioned the reason that low level of coverage by health facilities could be due to the fact that women didn't accept that it was necessary to have skilled care at delivery, this may be poor quality service in institutional birth or were not aware of the seriousness of the complications that they might face(9).

The study done in Nairobi – Kenya Pumwani Maternity Hospital in 2014 shows at 95% level of confidence, the relationship between client waiting time was significant with longer waiting time associated with low levels of client interaction and vice versa. It was observed that majority of the respondents (61.8%) agreed that they got all the services recommended by service providers while in the hospital and a small percentage (12.5%) disagreed that they did not get all the services recommended by services providers while in the hospital(27).

This finding consistent with finding from different literatures which showed that availability and access alone cannot reverse maternal condition but the content and quality of facility and service does (26).

## 2.1. Conceptual Frameworks for Technical quality

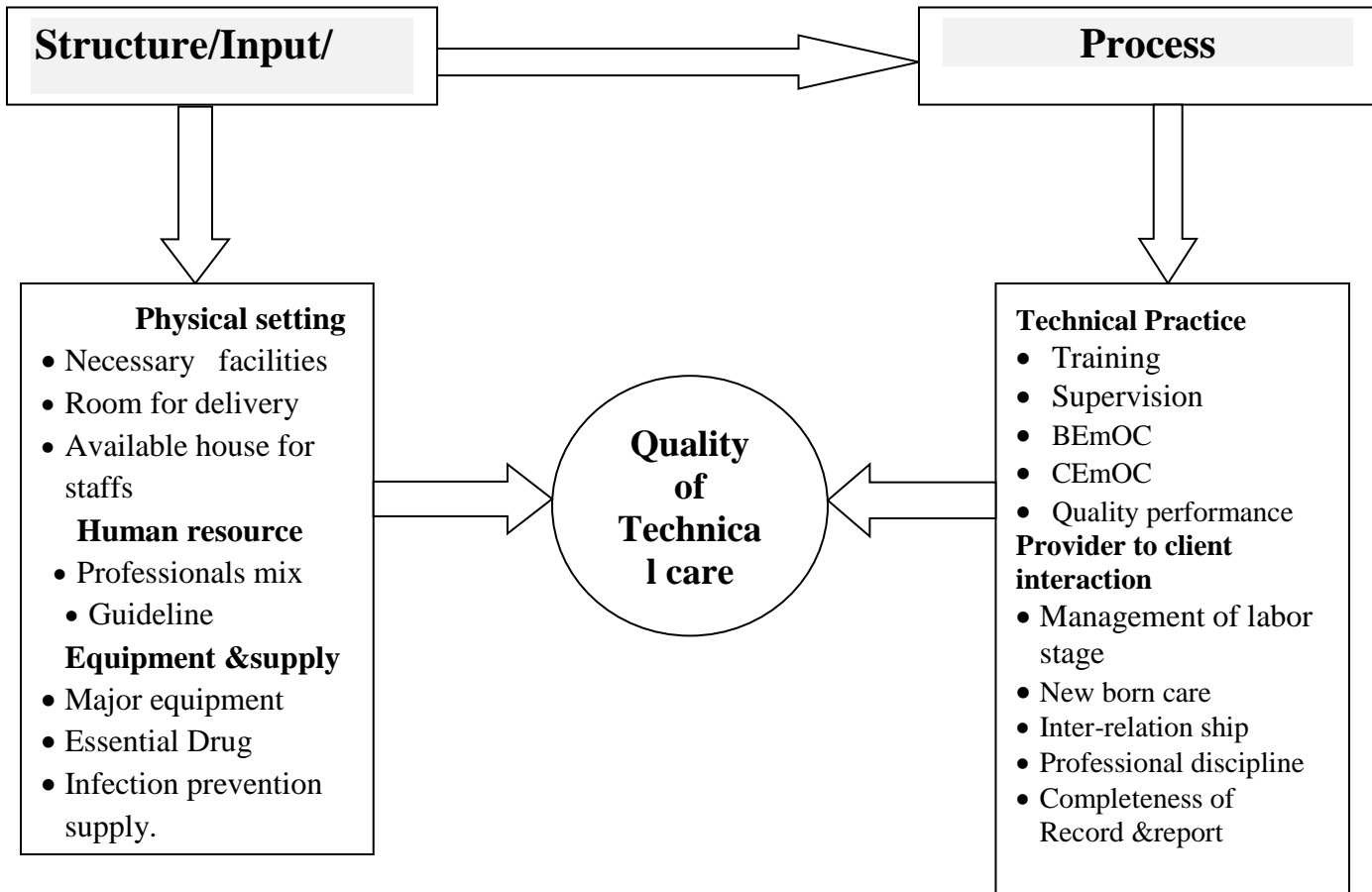


Figure 1: Adapted from Donabedian & different literature((13,30).

## **Chapter Three: Objectives of the Study**

### **3.1. General Objective**

To assess the technical quality of institutional delivery service in Jimma Zone public health facilities.

### **3.2. Specific objectives**

- To assess structural standard of delivery services in public health facilities.
- To assess technical practice procedures available in institutional delivery services.
- To assess the compliance of health professionals with the standard of institutional delivery services.

## **Chapter Four: Methods and Materials**

### **1.1. Study area and period**

The study was conducted from February 29 –March 20 /2016 in Jimma Zone public health institutions and Jimma Town administration Oromia regional state, south western Ethiopia. Based on the 2007 Census, the total projected population of the zone is 3,090,112 of which 89.69% are rural inhabitants (29).

Women in reproductive age(15-49)& pregnant women is estimated 23.3%&3.47%of the total population consequently .The zone is divided in to 18 districts and one town administration with a total of 545 Kebeles (the smallest administrative unit) among which 515 are rural. In Jimma zone and Town administration, there are 4 primary hospitals, 114 health centers and 459 health posts. There is a zonal health department located in the capital of the zone, Jimma town, and there are 18 Woreda/town health offices which are responsible for managing health activities in the zone.

### **1.2. Study design**

A facility based descriptive cross sectional study design was employed by using both qualitative and quantitative techniques.

### **1.3. Population**

#### **1.3.1. Source population**

All public health facilities found in Jimma zone and Jimma town administration were the source population.

#### **1.3.2. Study population**

All selected public health facilities found in Jimma zone and Jimma town administration were the study population.

### **1.4. Inclusion criteria**

All laboring mothers visited in selected health facilities for normal delivery service at the time of observation Period were included in the study.

### **1.5. Exclusion criteria**

The normal labor procedure changed in to comprehensive procedure like cesarean section due to complicated labor the observation procedure were terminated during data collection.

## **1.6. Sample size estimation and sampling procedure**

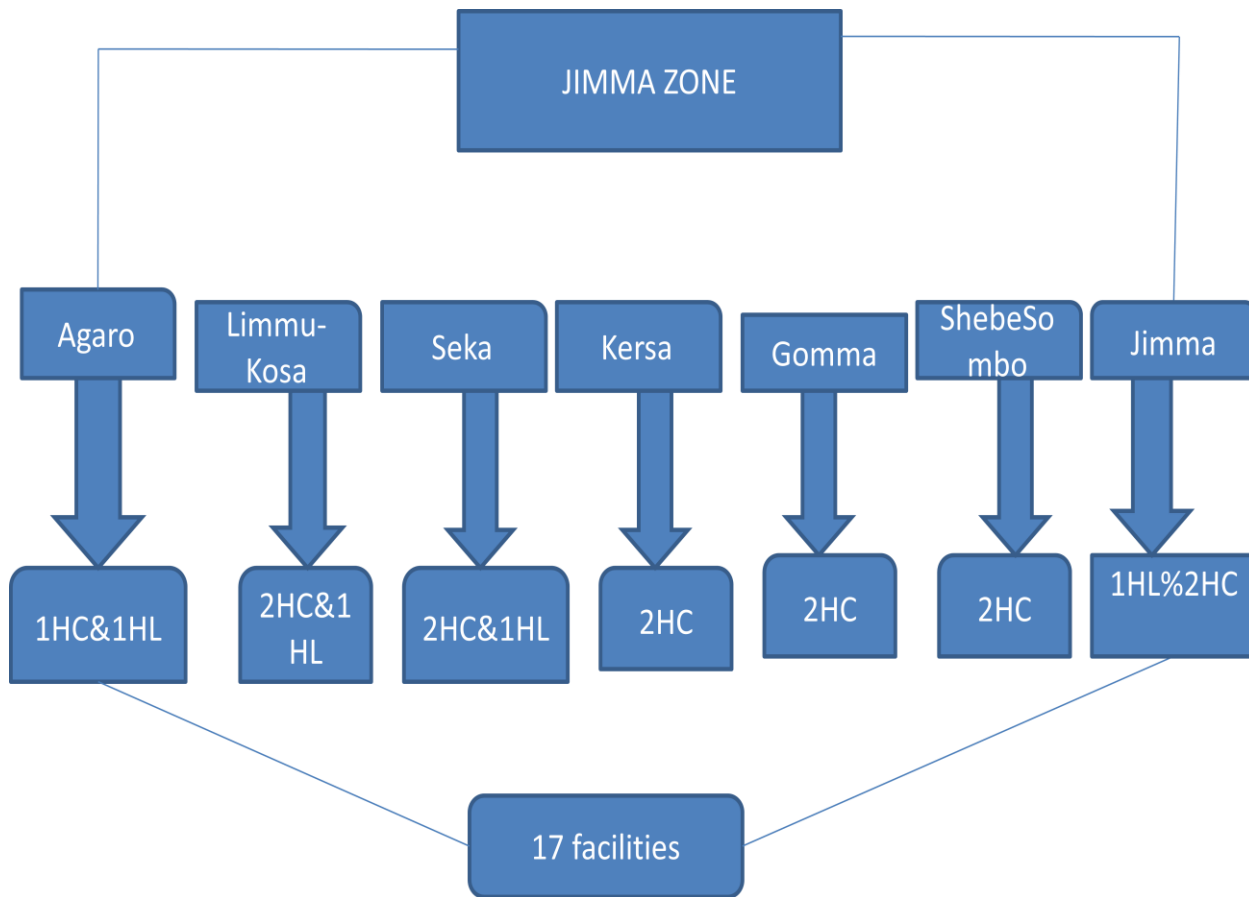
### **Sample size estimation**

A total of 17 public health facilities were included in the study. Thirty percent of the Woredas in Jimma zone were selected. There are 40 health centers in selected woreda. Among the selected Woredas 11(30%) of health centers & 2 from Jimma town administration a total of 13 health centers were selected by computer generated sampling method. Purposively all four primary hospitals were included in the study.

For observation ten delivery consultations in each primary hospital and health centers were observed with a total of 172 consultation 92(54%) on day time and 80(46%) at night. As a whole a total 53 observation were carried out in 4 primary hospitals and 119 were in 13 health centers sampling procedure.

All primary hospitals were selected directly, while 13(30%) health centers from 06 woredas and 01 administrative town were selected by computer based simple random sampling method. From the selected public health facilities 81 health care professionals working in delivery room were directly observed while giving the services.

For qualitative study 02 hospitals and 03 health centers were selected for in-depth interview. Four key informants from each selected hospitals and 3 key informants from health centers were included in the study. (Medical director, SEO, head delivery case team & senior provider for hospital) and health center director, delivery case team coordinator and senior provider for health center).



**Figure 2:** Schematic sampling frame.

### 1.7.Data collection tools:

- **Structured observation checklist**, to review physical setting of the facility, professional mix.
- **Document review** for quality assurance technique, quality performance review, supportive supervision.
- **Facility inventory checklist** for availability of essential drug, infection prevention supply, major equipment for maternal health.
- **Provider to client interaction checklist** for observation at management of normal labor.
- **Key informant interview guide**, for in-depth interview were adapted from Donabedian model and deferent literature(12,28).
- Three trained Diploma holder for data collection, two health education experts for in-depth interviews, three supervisor and ten senior professionals in primary hospital &in health center for direct observation of institutional services were recruited.

## 1.8. Variables of the study and measurement Variables

### ❖ Input availability

- Physical setting
- Human resource
- Supply and equipment

### ❖ Availability of obstetric care services

- Basic Emergency Obstetric care for HC
- Comprehensive Emergency Obstetric care for HL
- Availability of functional quality performance team
- Availability of referral system

### ❖ Provider to client interaction

- Confidentiality
- Privacy
- Timeliness
- Professional discipline
- politeness
- Respectfulness

### ✚ New born care

- APGAR score
- Breast feeding
- Actual ventilation
- Clean cord care practice
- Use of partograph
- Medical record availability

## 4.9. Data management and analysis

Data were entered into to EPIdata3.1 and exported to SPSS version 20 for descriptive analysis. Descriptive statistics like graphs, tables and numerical summary were presenting the quantitative results. Qualitative data were translated and transcribed thematically.

## 4.10. Operational definition

**Input:** The resources required for maternal health care services like; physical setting, standard human resource for facility as the hall and adequate professionals, availability of major equipment and essential drug in maternal health unit.

**Processes:** described in this study the basic essential obstetric care service; like BEmOC & CEmOC, functional quality performance review team, integrated supportive supervision practice and interrelation in between provider to client in management of normal labor practice were provided by health care provider in labor ward based on the standard.



**Privacy:** Screen & keep the client's freedom while institutional delivery care was provided.

**Technical Skill:** In this study providers applied behavior of service provider based on current knowledge and professional capacity development in basic emergency obstetric care and comprehensive emergency obstetric care service and have capacity in other essential maternal health service had trained, licensed and adequate knowledge to provide institutional delivery service in Jimma Zone public facilities.

**Interpersonal skill:** (The provider to client interaction); such as, inter relationship in between providers & the clients, treats timely, professional discipline (identification badge professional uniform), and new born care.

**Inter relationship:** relationship in between the health care providers & the clients; such as, respectfulness, confidentiality, privacy, politeness client communication,

**Waiting time** in this study the first time was seen on the provider working time punctuality and respectfulness. (Clients were stay in waiting room up to the first contact of the provider).

**Time motion:** The length of time started from admission of initial assessment for labor to the end of early postnatal care service was the clients can get care when needed.

**Observation:** Observation is one of the most frequently used methods for measuring technical quality (3). Assessing the care provider interpersonal skill on client interaction in terms of Timeliness, Professional discipline, privacy, confidentiality of provider, respectfulness and providing basic maternal & neonatal care procedures were included in the assessment during observation. The observation would be terminated if the normal procedure would be changed to complicated procedures, like cesarean section due to complicated labor.

**Technical practice:** The provision of basic emergency obstetric care in health center, comprehensive emergency obstetric care service in primary hospital, functional quality performance review team, available supportive supervision & the referral linkage at all facilities were practiced based on the guideline.

**Supportive supervision:** in this study, the integrated supportive supervision activities, including feedback were carried out in the facility by upper level integrated team regularly.

**Respectfulness:** greeted and called clients by their name in the beginning and appointment given at the end of the result.

**Over use:** Excess utilization of health care resource for quality service like professionals assigned in health facility above the standard.

**Under use:** un proportional input utilization for maternal health care service which is below the minimum requirement like low health care providers coverage at health facility level.

**Medical record** in this study defined at least contain by the following information.

- ⇒ Identification (name, age, sex, address)
- ⇒ History, physical examination, investigation results
- ⇒ All management labor stage result
- ⇒ Medication, procedure and consultation notes
- ⇒ Name and signature of assigned provider

**Technical quality of care:** The quality of care provided in maternity room by health care professionals. The services were provided in labor ward based on the national guidelines in terms of;

- ✚ Availability of major equipment,
- ✚ Availability of professional mix,
- ✚ Availability of physical setting like; delivery room, Ambulance service, functional water source, telephone availability in the facility.
- ✚ Availability of BEmOC; in the health center &CEmOC service in primary hospital.
- ✚ Interpersonal relationship of care provider &clients.
- ✚ Technical quality insured in the labor ward when the availability of all input and process result scored above 70% otherwise no.

**Standard quality care measurement:** quality is assessed using multiple indicators, evaluation for a global comparison of the quality given by different providers, it is often desirable to combine across indicators to produce a “composite” or “aggregate” score that is concise and easy to report. Composite scores have the further advantage that reliable scores can be derived using Much smaller samples of records than are required for single indicators.

There are **five** methods were used to compute a composite quality score, these are **All-or-none, 70% Standard, Overall Percentage, Indicator Average and Patient Average.**

Out of these methods we used to measure quality score, the simplest and easy to compute for success is that 70% or more were the minimum criteria for standard.

If all items or cumulative result of facility structure and process result were achieved 70% and above, relatively met the standard and below 70% were not met the standard based on quality care standard guideline(30).

**Skilled attendant: In this study** a health care professional who had received formal training in clinical Diploma and above. This includes nurses, and midwives, health officers, general practitioner, and Emergency surgical officer. Health extension workers are not considered as skilled attendants.

**Health center:** In this study middle level public health primary care facility below hospital with mid-level professionals and availability of supply& major equipment& necessary materials equipped to provide normal institutional delivery service and conducting Basic Emergency Obstetric Care

**Primary hospital:** A primary health care unit, that provide emergency obstetric surgery (EOS) ,availability of essential, supply, drug& had medical equipment for delivery service &conducting Comprehensive Emergency Obstetric Care (CEmOC).

#### **4.11. Data Quality control**

The quality of data was assured by proper designing and pre-testing of the questionnaires was done in Jimma university specialized hospital, one of the facility other than the selected facility; Training was given for data collectors and supervisors before the actual data collection. The data was checked for completeness and relevance by the supervisors and principal investigator and the necessary feedback were offered to data collectors.

#### **4.12. Ethical consideration**

Ethical clearance was obtained from Institutional Review Board (IRB) Jimma, University Collage of Health Science. Formal letter of cooperation were written to Jimma Zone Health Department and respective facilities. Informed consent was obtained from each study subject. Each respondent were informed about the objective of the study that would give necessary information for policy makers and other respective organization. The study participant's inclusion was determined after their complete consent is obtained. Any provider who was not willing to participate in the study would not be forced to participate. They were also informed that all data obtained from them would be kept confidential by using codes instead of any personal identifiers and is meant only for the purpose of the study.

#### **4.13. Dissemination of the Result**

The finding of this study will be disseminated through publication (local or international journals), presentation on annual Scientific meeting, conferences, etc. A copy will be offered to Jimma University college of Health science, department of Health Economics, Management and Policy, FMOH, Oromia Regional Health Bureau, Jimma Zone Health Department and other concerned bodies. So that they can use the results for decision making, corrective action based on the finding, planning and implementation of institutional delivery service program.

## **Chapter-Five Results**

### **5.1. Input result**

#### **5.1.1. Back ground information of study participants and facilities**

The study conducted in 04 primary hospitals and 13 health centers. Twenty nine health officer, 32 BSC degree & 25 Diploma midwives, a total of 81 providers working in maternal health unit. Among 49 were trained in basic emergency obstetric care. Among all, only 12 providers were less than six months working experience all of them were directly involved in management of normal labor. There were 11 emergency surgical officers, 9 Anesthesia officers, 13 scrub nurse and 24 general practitioners were working in comprehensive emergency obstetric care unit and they were available for 24 hours service. Based on the above information all four hospitals and only in 05(38.5%) (Seka, Jimma, Serbo, Agaro & Gembe health centers) have adequate number of health professionals available out of 13 health centers based on the standard.

All of the hospitals and 05(38.5%) (Seka, Jimma, Serbo, Agaro & Gembe) health centers have required number of midwives based on the standard. The required number of health officers in 06(46%) (Seka, Boyo-Kechema, Jimma, Serbo, Agaro & Gembe) health centers. The remaining 08 health centers were not fulfill the requirements. All hospitals and five health centers have living house for maternal health care senior providers

The total of 460 all type health care professionals available in all selected facilities. Among these 81 in health centers and 62 in all hospitals were working in maternal health unit. This scored 81% and 94% respectively of total. But the number of professionals in 04 health centers and 04 hospitals were above the requirement. There are 37 all type of excess professionals in 08 facilities and 24 providers were in excess working in maternal health unit in four hospitals. While additional providers needs for maternal health unit were 23 as per the standard. Only in 03 health centers the professionals availability were met 70% minimum standard and six health centers were below the standard (below 70%).

#### **Qualitative result**

The respondents from health centers with above 2 years working experience were revealed:

- ⇒ Majority of professionals assigned in excess in accessible environment but rural health centers were neglected.

⇒ The professionals working in rural health centers were disappointed to stable in their working environment.

**Table 1: Health care providers available in maternal health unit in selected public health facility in Jimma March 2016.**

| Qualification                      | No of facilities | Full standard facilities | Total requirement | Available | coverage | Difference |        | Facilities with living house |
|------------------------------------|------------------|--------------------------|-------------------|-----------|----------|------------|--------|------------------------------|
|                                    |                  |                          |                   |           |          | Excess     | Needed |                              |
| Health Officers for HC             | 13               | 06                       | 39                | 29        | 74.3     |            | 10     | 05                           |
| Midwives for HC                    | 13               | 05                       | 39                | 26        | 66.67    |            | 13     | 05                           |
| Emergency Surgical Officers for HL | 4                | 4                        | 8                 | 11        | 137      | 3          |        | 04                           |
| Anesthetic for HL                  | 4                | 4                        | 8                 | 9         | 112.5    | 1          |        | 04                           |
| Scrub nurse for HL                 | 4                | 4                        | 8                 | 13        | 162      | 5          |        |                              |
| Midwives for HL                    | 4                | 4                        | 20                | 31        | 155      | 11         |        | 02                           |
| Total for HC                       | 13               | 5                        | 78                | 55        | 76.4     |            | 23     | 05                           |
| Total for HL                       | 4                | 4                        | 44                | 64        | 145.5    | 20         |        | 04                           |
| Cumulative total                   | 17               | 9                        | 122               | 119       | 97.5     | 20         | 23     | 09                           |

**Table 2: Distribution of providers in health facilities in Jimma zone March 2016**

|  | Facility                  | Number of providers |            | Percent    |              |
|--|---------------------------|---------------------|------------|------------|--------------|
|  | Type                      | Standard            | Available  |            |              |
| <b>Number of professionals in the facility</b> | Sekahealthcenter          | 18                  | 19         | <b>105</b> |              |
|  | Boyokechema health center | 18                  | 10         | 55.6       |              |
|  | Shebehealthcenter         | 18                  | 13         | 76.47      |              |
|  | Sombo health center       | 18                  | 12         | 66.7       |              |
|  | Agaro health center       | 18                  | 19         | <b>105</b> |              |
|  | Gembe health center       | 18                  | 15         | 83.3       |              |
|  | Yaachi health center      | 18                  | 12         | 66.7       |              |
|  | Limu-Genet health center  | 18                  | 12         | 66.7       |              |
|  | Ambuye health center      | 18                  | 12         | 66.7       |              |
|  | Serbo health center       | 18                  | 21         | <b>116</b> |              |
|  | Bulbul health center      | 18                  | 9          | 50         |              |
|  | Higher health center      | 18                  | 13         | 72         |              |
|  | Jimma health center       | 18                  | 20         | <b>111</b> |              |
|  | Seka-Chekorsa hospital    | 61                  | 64         | <b>105</b> |              |
|  | Agaro hospital            | 61                  | 67         | <b>106</b> |              |
|  | Limu-Genet hospital       | 61                  | 70         | <b>115</b> |              |
|  | Shan-Gibe hospital        | 61                  | 73         | <b>120</b> |              |
|  | Total                     |                     | <b>478</b> | <b>460</b> | <b>81.2%</b> |

### 5.1.2. Physical Setting

Based on the result all four primary hospitals and all 13 health centers have nationally prepared facility guidelines. All facilities have electricity. But sometimes there were power shortage for 24 hours in majority of facilities. All hospitals and 7(54%) health centers (Seka, Shebe, Jimma, Serbo, Agaro, and Gembe) have stand by generator.

Except five (Sombo, Bulbul, Ambuye, Yachiand, Limu-Genet) health centers, 12 facilities have functional water source.

All hospitals and seven health centers (Shebe, Seka, Agaro, Serbo, Gembe, Limu-Genet and Jimma) have ambulance service. The rest 6 health centers were commonly utilized by coordination of woreda health office ambulance. But there was readiness problem for 24 hours services.

Majority of health centers didn't have transport facility. Only 5(38.5%) Seka, Shebe, Agaro, Serbo&Jimma) health centers and all hospitals have transport facilities.

Except 01 hospital Shanan Gibe (Seka- chekorsa, Limu-Genet &Agaro hospitals) and 05 health centers. (Seka,Serbo,Agaro,Gembe&Jimma) have functional suggestion box. But none of the facilities have specific suggestion box in any of labor ward in all facilities.

**Qualitative data** from selected informants:

Majority of selected providers working in senior management team in selected facilities reported that; there was a physical setting gap in health facilities:

- Frequent on-off of electric power & water services.
- The hospital reforms were not fully functional. There was facility reform (BPR) implementation plan but not functional regularly.
- Shortage of budget due to high consumption budget for generator fuel and low customers flow in the facility influence collecting adequate revenue.

Table 3: Availability of basic facility service in public health facilities, Jimma zone, southwest Ethiopia, March 2016

| <b>Activities</b>  | <b>Total facilities</b> | <b>Frequency</b> | <b>Percent</b> |
|--|-------------------------|------------------|----------------|
| Availability of water source                                     | 17                      | 17               | 100            |
| Functional water for twenty four hours                           | 17                      | 12               | 70.6           |
| Availability of electric supply                                  | 17                      | 17               | 100            |
| Functional & available stand by generator                        | 17                      | 11               | 64.7           |
| Functional ambulance in each facility                            | 17                      | 11               | 64.7           |
| Availability of enough budget for ambulance maintenance and fuel | 11                      | 9                | 81.8           |
| Availability of transport facility                               | 17                      | 9                | 52.9           |
| Transport functionality  | 17                      | 9                | 52.9           |
| Telephone service availability                                   | 17                      | 12               | 70.6           |
| Suggestion box availability and functionality                    | 17                      | 8                | 47             |
| <b>Average total</b>   |                         |                  | 72.34          |





### Necessary rooms for delivery

Accepted standard rooms for labor ward were 05 rooms for primary hospital & 03 rooms for health centers with toilet and shower facility. All 04 hospitals fulfill the criteria and only 06(46%) (Agaro, Gembe, Jimma, Seka, Shebe & Limu-Genet) health centers have all available rooms. The rest 07(54%) of health centers have inadequate room for their facilities.

Except four (Seka, Shebe, Agaro and Jimma) health centers, (09 (53 %) health centers have utilizing the same room for prenatal and postnatal care service.

The second stage and postnatal room for delivery service in all 17 facilities were fully available based on the standard.

**Table 4:** Delivery rooms and associated services in public health facilities in Jimma zone, southwest Ethiopia, March 2016.

| Activities  | Total | Frequency | Percent |
|---|-------|-----------|---------|
| Prenatal room   | 17    | 9         | 52.9    |
| Second stage delivery room  | 17    | 17        | 100     |
| Postnatal room for delivery   | 17    | 17        | 100     |
| Hand washing facility in each room                                      | 17    | 11        | 64.7    |
| Toilet room with shower facility  | 17    | 6         | 35.3    |
| Well ventilated room in labor ward                                      | 17    | 8         | 47.1    |
| The prenatal and postnatal room<br>Accommodate with minimum of two beds | 17    | 16        | 94.1    |
| Free area for neonatal resuscitation in labor<br>ward                   | 17    | 13        | 76.5    |
| separate admission room for obstetric patients                          | 17    | 3         | 17.6    |
| Average   |       |           | 62      |

**Table 5: Physical setting score in each facility standard based in Jimma Zone March2016.**

| Health facility<br>Type   | Functional water service for 24 hours | Electric supply for 24 hours | Stand by generator for 24 hours | Ambulance service for 24 hours | Total score % |
|---------------------------|---------------------------------------|------------------------------|---------------------------------|--------------------------------|---------------|
| SekaChekorsa hospital     | 1                                     | 1                            | 1                               | 1                              | 100           |
| Seka health center        | 1                                     | 1                            | 1                               | 1                              | 100           |
| Boyokechema health center | 1                                     | 1                            | 0                               | 0                              | 50            |
| Shebe health center       | 1                                     | 1                            | 1                               | 1                              | 100           |
| Sombo health center       | 1                                     | 1                            | 0                               | 0                              | 50            |
| Limu-Genet hospital       | 1                                     | 1                            | 1                               | 1                              | 100           |
| Limu-Genet health center  | 1                                     | 1                            | 0                               | 1                              | 75            |
| Ambuye health center      | 1                                     | 1                            | 0                               | 0                              | 50            |
| Gembe health center       | 1                                     | 1                            | 0                               | 0                              | 50            |
| Yaachi health center      | 1                                     | 1                            | 0                               | 0                              | 50            |
| Agaro hospital            | 1                                     | 1                            | 1                               | 1                              | 100           |
| Agarohealth center        | 1                                     | 1                            | 1                               | 0                              | 75            |
| Serbo health center       | 1                                     | 1                            | 1                               | 1                              | 100           |
| Bulbul health center      | 1                                     | 1                            | 0                               | 0                              | 50            |
| Shanan Gibe HL            | 1                                     | 1                            | 1                               | 1                              | 100           |
| Higher2health center      | 1                                     | 1                            | 0                               | 1                              | 75            |
| Jimma health center       | 1                                     | 1                            | 1                               | 0                              | 75            |
| <b>Total</b>              | 17/17                                 | 14/17                        | 6/17                            | 8/17                           | <b>67.2%</b>  |

**N.B:1=yes ,0=no**

Based on national guidelines, the adequate supplies and equipment needed for infection prevention risk-reduction activities were fully available in 04 hospitals and 08 health centers (70%) from total facilities. In 05 (Bulbul,Sombo, Yachi,Boyokecema&Ambuye) health centers shortage of supplies was observed.

Twelve health facilities have essential drugs available throughout all days. The rest 05 (Sombo, Bulbul, Yachi, Ambuye & Boyokechema) health centers were in short supply. Except three facilities (Ambuye, Sombo, Bulbulhealth centers) all 14 public health facilities, have essential equipment in labor ward.

**Qualitative result:**

**Majority of selected informants from health centers were revealed;**

- ✚ Lack of Infection prevention supply
- ✚ There was training gap in infection prevention procedures based on the guideline.
- ✚ One of the 27 years and 3years working experienced respondent from health center quoted seriously the reason for shortage of essential drugs in labor ward was due to lack of early preparedness and distribution of drug from pharmaceutical fund and supply Agency (PFSA).

Standard guideline was available in all of the hospital and 9 health centers. Similarly, partograph issued in all of the hospitals and 9 health centers to follow the progress of labor. In four health centers (Sombo, Bulbul, and Ambuye&Yachi) were not functional.

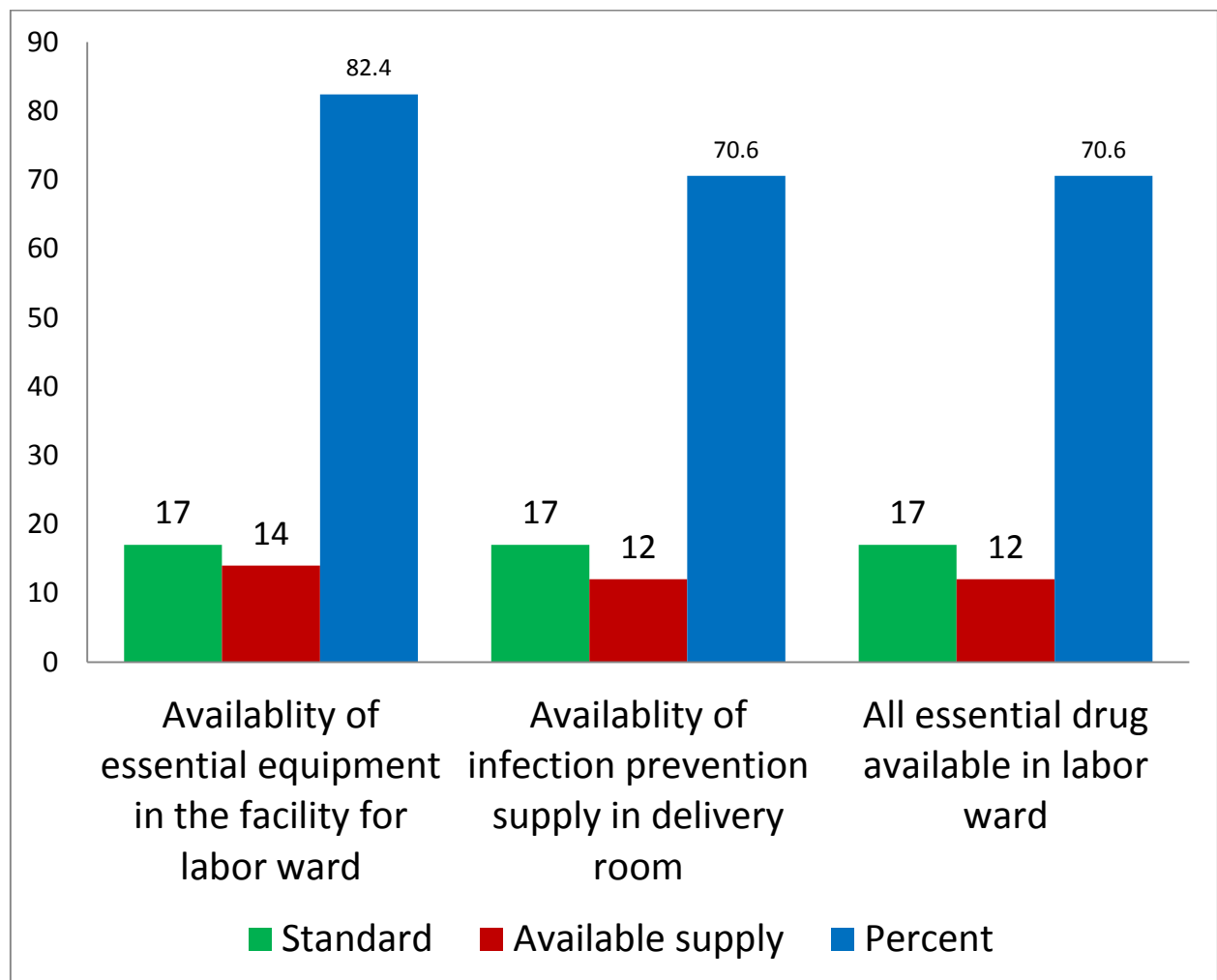


Figure 3: Availability of supply and equipment in public health facilities, Jimma zone, southwest Ethiopia, March 2016.

### **Input summary:**

- ⇒ The total score of physical setting 72 % met the standard.
- ⇒ Availability of supplies & equipment 74.5% above the minimum standard..
- ⇒ Total available professionals 81.2 % met the standard.
- ⇒ The average result in structural availability 75.9% above the standard.

## **5.2. Process result**

All health facilities have planned to conduct performance evaluation review monthly. But 08 facilities (03 hospitals, except shanan Gibe & 05 health centers, (Serbo, Agaro, Seka, Gembe & Jimma) have conducted the facility quality performance evaluation regularly. The rest 09 (53%) facilities have quality performance review team but not functional.

### **5.2.1. Obstetric service**

Among the 13 observed facilities the Basic Emergency Obstetric Care services were carried Out in 8 (61.5%) (Serbo, Agaro, Seka, Boyo-Kechema, Shebe, Gembe, Jimma & Higher 2) health center. Comprehensive emergency obstetric service practiced in all hospitals.

#### **Supervision**

Three of the hospital (except Shanan Gibe) and five health centers (Serbo, Agaro, Seka, Gembe & Jimma) a total of 08 (47%) facilities out of 17 had be regularly supervised by professional from immediate upper level. Feedback also has been given accordingly. This result reported from those facilities actively conducting quality performance review regularly.

#### **Training**

From available 81 health care providers directly working in maternal unit 49 (61%) of providers conducted in service training on basic emergency obstetric care service. Whereas 32 (39%) were not trained.

### **Qualitative result:**

Majority of selected providers working in hospital & health center were reported:

- Supportive supervision is an essential tool to improve quality service.
- Integrated supportive supervision were carried out every quarter by woreda and Zonal health office integrated team.

- Feedback was given regularly for corrective action in those supervised facilities.
- Continuous in-service and refreshment training gap in between the providers to conduct basic emergency obstetric care based on the guideline.
- One respondent from health center boldly addressed that there was supportive supervision but not problem oriented. Specific support for specific unit was not practical and more focused on general support.

Appropriate caesarean section team were always available for emergency in all hospitals. Except Shanan-Gibe HL&Boyo-kechema,Serbo&Bulbul health centers ten health centers and three hospitals have appropriate referral linkage which account 76.5%.

Table 6: Technical practice services availability in maternal health unit in Jimma Zone public health facilities in March2016.

| Activities   | Standard | Frequency | Percent |
|--|----------|-----------|---------|
| Facility conduct supportive supervision                                    | 17       | 11        | 64.7    |
| Health care provider got in service training                               | 81       | 49        | 61.5    |
| Health center provide basic emergency Obstetric care for twenty four hours | 13       | 8         | 61.54   |
| The health care provider practiced Bemoc service                           | 119      | 61        | 51.26   |
| The hospital provide comprehensive emergency obstetric care for24 hours    | 4        | 4         | 100.0   |
| Appropriate caesarean section teams are always available for emergency     | 4        | 4         | 100.0   |
| The facility has established referral linkage with the next facility       | 17       | 13        | 76.5    |
|  | Total    | 15        | 73.15   |

The quality Assurance Sampling (LQAS) technique is the very important tool to check the quality service result. Data accuracy check provided only in 6(35.3%) (Limu-Genetand Seka hospitals and Serbo, Agaro, Seka, Jimma) health centers, for the last six months. The rest 11 facilities were not provided.

Table 7: Technical practice services score in each facilities, Jimma zone southwest Ethiopia March2016.

| Health facility           | supportive supervision in % | BEmOC and CEmOC In % | Facility provide quality performance review monthly in% |
|---------------------------|-----------------------------|----------------------|---|
| SekaChekorsa hospital     | 100%                        | 100%                 | 83%   |
| Seka health center        | 100%                        | 100%                 | 83%   |
| Boyokechema health center | 50%                         | 100%                 | 50%   |
| Shebehealth center        | 50%.                        | 100%                 | 50%   |
| Sombo health center       | 50.%                        | 0                    | 33.3  |
| Limu-Genet hospital       | 100%                        | 0                    | 100%  |
| Limu-Genet health center  | 50                          | 1000                 | 0   |
| Ambuye health center      | 50                          | 0                    | 33.3  |
| Gembe health center       | 100%                        | 100%                 | 100.0%  |
| Yaachi health center      | 50%.                        | 0                    | 33.3%.  |
| Agaro hospital            | 100%                        | 100%                 | 83.3%   |
| Agaro health center       | 100%                        | 100%                 | 100%  |
| Serbo health center       | 100%                        | 100%                 | 100%  |
| Bulbul health center      | 50%                         | 0                    | 33.3%.  |
| Shanan Gibe HL            | 50%                         | 100%                 | 33.3%.  |
| Higher2health center      | 50%                         | 100%                 | 33.3%.  |
| Jimma health center       | 100%                        | 100%                 | 100%  |
| Total                     | 8/17                        | 12/17                | 8/17  |

⇒ **NB:**Supportive supervision conducted every quarter=100%

BEmOc & CEmoc available for 24 hours=100%

Functional quality performance review monthly =100%

### The overall result in technical practice:

- ✚ Basic emergency care service facilities in 8(61.5%) health centers were not met the standard from total health facilities.
  - ✚ Comprehensive emergency obstetric care service facilities 4(100%) in all hospitals.
  - ✚ Referral linkage facilities 13(76.5%) not fulfill the standard.
  - ✚ Quality performance review were functional team were scored in 8(47%) facilities
  - ✚ Quality assurance technique practiced in 6(35.3%) facilities were not met the standard.
- ⇒ The overall score in technical practice shows64%and were not met the standard.

### 5.2.2. Provider to client interaction

Management of normal labor and delivery service were observed in all stages. Among 172 observation providers conducted 152(88.4%) in first stage, and in 170 observation providers were conducted second & third stage, and only 53(31%) in fourth stage procedures.

Table 8: Management of Norma labor practice in Jimma zone public health facilities, southwest Ethiopia, March2016

| Stages of labor   | Total observation | Followed standard | Not Followed standard | Followed Percent |
|---|-------------------|-------------------|-----------------------|------------------|
| The provider conduct first stage of labor at initial stage        | 172               | 152               | 20                    | 88.9             |
| The provider conduct second stage of labor                        | 172               | 170               | 2                     | 99.4             |
| The provider conduct third stage of labor                         | 172               | 170               | 2                     | 99.4             |
| The provider conduct fourth stage of labor based on the guideline | 172               | 61                | 111                   | 35.47            |
|   | Total             |                   |                       | 80.79%           |

### Completeness of medical record

Completeness medical record covered client's personal information including name, age, sex, address and all clinical information's. Accordingly, among 172 medical records observed, 114(66.3%) were found to be complete record.

### Timeliness

The providers were seen helping clients timely in 132 (76.7%) observation. On 65(38%) observation Providers were respectful for their working time. Working time was more practiced where the providers have living house in the facilities. The care provider's worn professional uniform & identification badge with full description at all times while at work and be easily visible, with name, profession and department facing outward were practice in 2 hospital (Limu-Genet, Seka-Chekorsa) and 3 (Agaro, Serbo and Seka) health centers. Only 34(19.8%) observation out of total.

All providers in all 17 facilities wear professional uniform without description of their identification. Among 172 observations 11 facilities except one hospital and five health centers



providers show politeness to their clients and within 131 observation providers keep their clients privacy.

Except 01 hospital & 03 health centers in 101 observation show care providers were respectful to their clients. This accounts 65%, 76.2% & 58.7% respectively. Over all 05 facilities score below the minimum standard and the rest 12 facilities 02 hospitals and 10 health centers met the standard. The commutative result on provider to client interaction was below the standard 65.3%.

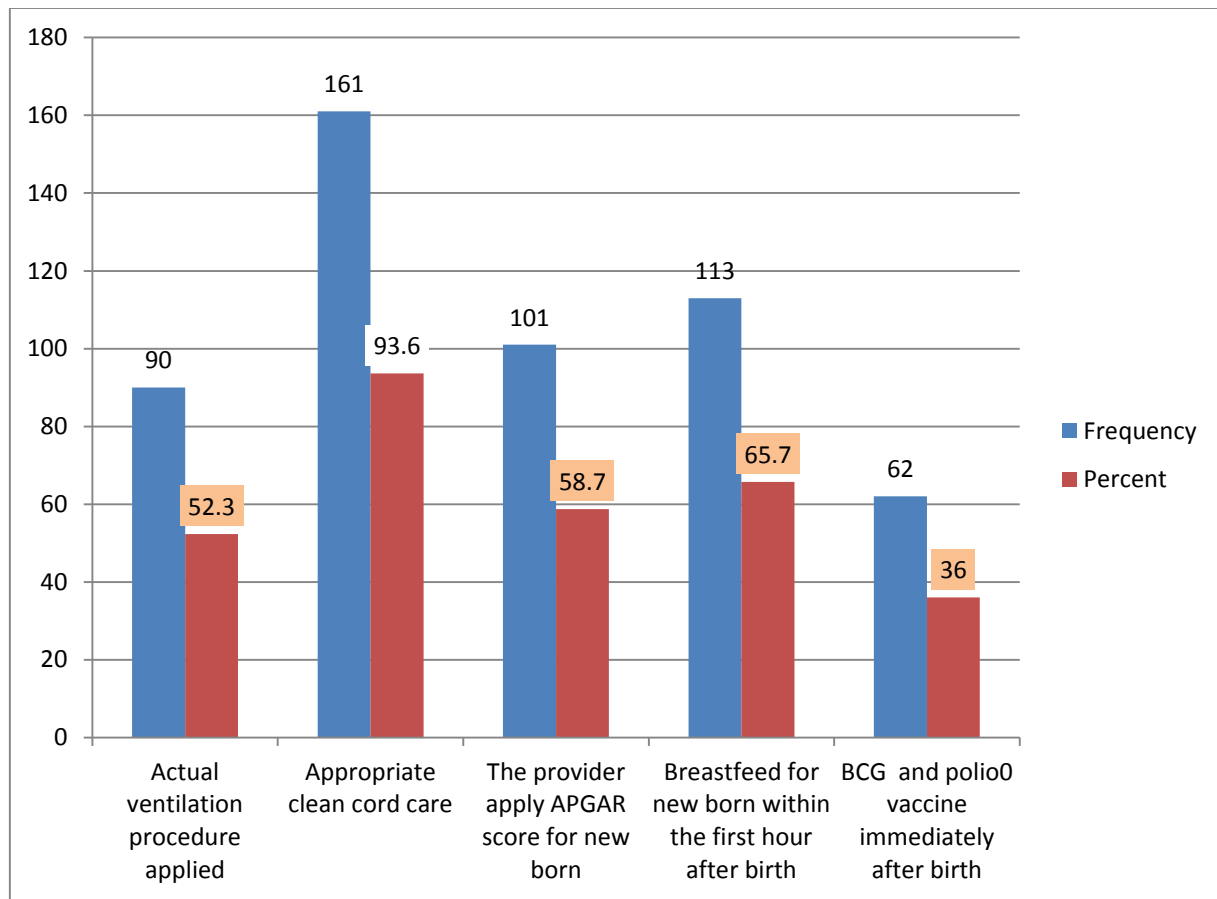


Figure 4: Observation of the new born care service in Jimma Zone public health facilities March 2016.

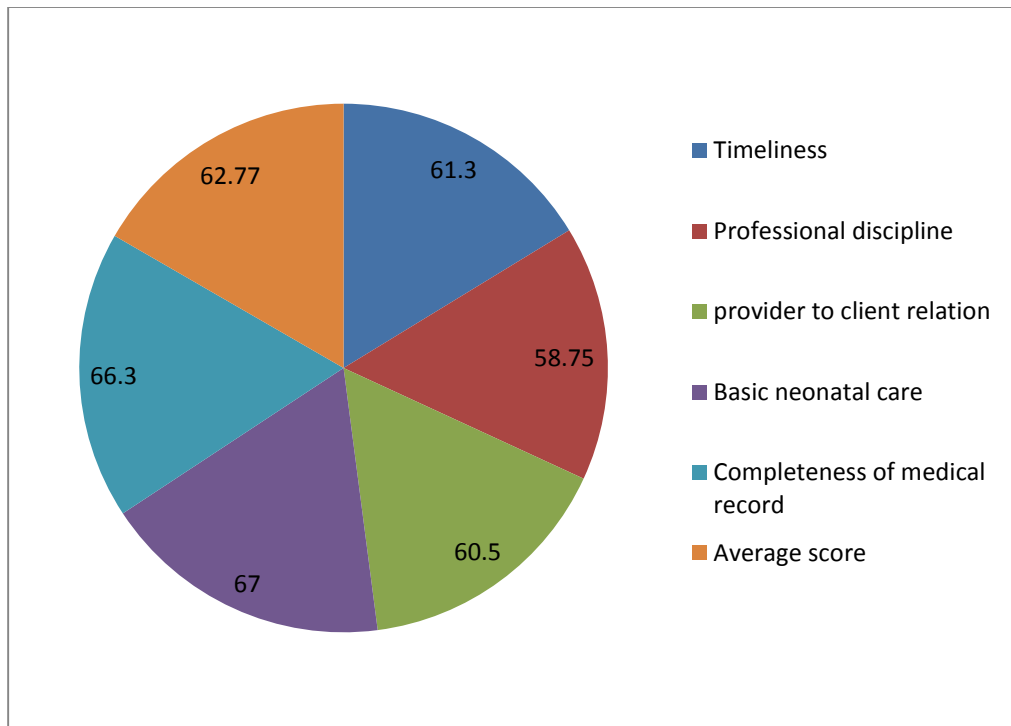


Figure 5: Provider to client interaction score in Jimma Zone public health facilities, March, 2016

Among all in 90(52.3%) observation providers practiced the correct protocol of actual ventilation procedures for new born baby. In one hundred sixty one (93.6%) observations, providers were seen while giving clean cord care. And in 101 (58.7%) observation providers assessed APGAR score for new born.

Providers initiate breast feeding within one hour after delivery in 113 (65.7% observation). The new born received BCG& polio 0 immediately after birth in only 62(36%) observed mothers. These procedures were conducted during early postnatal period.

During observation the provider to client interaction, in terms of timeliness, active management of third and fourth stage labor, client privacy and completeness of record and report scored 73% were met the requirement at day time and only 47% at night time.

Table 9: Observation score in provider to client interaction at day and night Jimma Zone March2016

| Activities  | Time of observation | Number of observed | Observation of delivery service in relation to time of the day in | %     |
|---|---------------------|--------------------|---|-------|
| First stage of labor at initial stage                 | Day time            | 92                 | 85  | 92.4  |
|   | Night time          | 80                 | 56  | 70    |
| Total   |                     | 172                | 141   | 82    |
| The provider conduct fourth stage of labor            | Day time            | 92                 | 39  | 42.4  |
|   | Night time          | 80                 | 22  | 12.8  |
| Total   |                     | 172                | 61  | 35.46 |
| completeness of medical record in labor               | Day time            | 92                 | 74  | 80.43 |
|   | Night time          | 80                 | 29  | 36.25 |
| Total   |                     | 172                | 103   |       |
| Providers time punctuality to clients in waiting area | Day time            | 92                 | 67  | 72.8  |
|   | Night time          | 80                 | 32  | 40    |
| Total   |                     | 172                | 99  | 57.56 |
| Health care provider keep clients privacy             | Day time            | 92                 | 70  | 76    |
|   | Night time          | 80                 | 61  | 76    |
| Total   |                     | 172                | 131   | 76    |
| Grand Total   | Day time            | 92                 | 67  | 72.8  |
|   | Night time          | 80                 | 38  | 47.5  |

The total score of provider to client interaction.

- ⇒ Timeliness 61.3%
- ⇒ Professional discipline 58.75%
- ⇒ Interrelation ship in between provider &clients 60.5%
- ⇒ Basic neonatal care service 67%
- ⇒ Completeness of medical record 66.7%
- ⇒ The total average result 62.85%( below the minimum standard)

The result summary shows 6 health centers have available input of cumulative result score in between 75.3-100%. Based on the quality measurement indicator those facilities scored above 70% were met the minimum standard. The rest 7 health centers input availability result were below the standard which is in between, 25% to 64.7%. Almost in all four hospitals have complete available and functional structure scored above 70% and met the minimum standard.

The technical practice procedures result showed in 06 health centers were above 70% and met the minimum standard. The rest 07 health centers the technical practice scored below the standard. In provider to client interaction, the result shows the 2 hospitals and 06 health centers, were met the minimum standard. Two hospitals and 07 health centers were score below the standard in terms of timeliness, interrelation ship in between clients, newborn care & complete medical record in labor ward during observation.

Table 10: All result summary report in each facility standard based in Jimma Zone March2016.

| Facility           | Input result<br>in% | Technical<br>practice<br>in% | Provider to client<br>interaction in% | Technical quality score |                           |
|--------------------|---------------------|------------------------------|---------------------------------------|-------------------------|---------------------------|
|                    |                     |                              |                                       | In %                    | Met/unmet the<br>standard |
| Seka health center | 74.5                | 77.76                        | 72.23                                 | 74.83                   | Met                       |
| Boyo-kechema HC    | 71                  | 66.7                         | 62.85                                 | 66.85                   | Unmet                     |
| Shebe HC           | 71                  | 66.7                         | 58.75                                 | 65.48                   | Unmet                     |
| Sombo HC           | 71                  | 50                           | 62.85                                 | 61.28                   | Unmet                     |
| Agaro HC           | 74.5                | 77.76                        | 62.85                                 | 71.7                    | Met                       |
| Gembe HC           | 74.5                | 77.76                        | 62.85                                 | 71.7                    | Met                       |
| Yachi HC           | 71                  | 50                           | 61.3                                  | 61                      | Unmet                     |
| Limu-Genete HC     | 72.23               | 50                           | 58.75                                 | 60.3                    | Unmet                     |
| Ambuye HC          | 61                  | 50                           | 62.85                                 | 57.95                   | Unmet                     |
| Serbo HC           | 74.5                | 77.76                        | 66.7                                  | 73                      | Met                       |
| Bulbul HC          | 72.23               | 50                           | 58.75                                 | 60.3                    | Unmet                     |
| Seka-ChekorsaHL    | 74.5                | 77.76                        | 66.67                                 | 73                      | Met                       |
| Agaro HL           | 83.3                | 61                           | 62.85                                 | 69                      | Unmet                     |
| Shanen Gibe HL     | 83.3                | 61                           | 58.75                                 | 67.68                   | Unmet                     |
| Limu-Genete HL     | 83.3                | 77.76                        | 77.76                                 | 79.6                    | Met                       |
| Jimma HC           | 83.3                | 72.23                        | 62.85                                 | 72.8                    | Met                       |
| Higher-2 HC        | 72.23               | 61                           | 58.75                                 | 64                      | Unmet                     |
| Total              | 75.9                | 65.67                        | 63.4                                  | 68.3                    | Unmet                     |

**Table 11: Result summary report by percent in each health centers standard based in Jimma Zone March 2016.**

| Facility           | Input | Technical practice | Provider interaction | Summary result | Score with cut of point | Category score |
|--------------------|-------|--------------------|----------------------|----------------|-------------------------|----------------|
| Seka health center | 74.5  | 77.76              | 72.23                | 74.83          | Above                   | scored         |
| Boyo-kechema HC    | 71    | 66.7               | 62.85                | 66.85          | Below                   |                |
| Shebe HC           | 71    | 66.7               | 58.75                | 65.48          | below                   |                |
| Sombo HC           | 71    | 50                 | 62.85                | 61.28          | below                   |                |
| Agaro HC           | 74.5  | 77.76              | 62.85                | 71.7           | Above                   | scored         |
| Gembe HC           | 74.5  | 77.76              | 62.85                | 71.7           | Above                   | scored         |
| Yachi HC           | 71    | 50                 | 61.3                 | 61             | below                   |                |
| Limu-Genete HC     | 72.23 | 50                 | 58.75                | 60.3           | below                   |                |
| Ambuye HC          | 61    | 50                 | 62.85                | 57.95          | below                   |                |
| Serbo HC           | 74.5  | 77.76              | 66.7                 | 73             | Above                   | scored         |
| Bulbul HC          | 72.23 | 50                 | 58.75                | 60.3           | below                   |                |
| Jimma HC           | 83.3  | 72.23              | 62.85                | 72.8           | Above                   | scored         |
| Higher-2 HC        | 72.23 | 61                 | 58.75                | 64             | below                   |                |
|                    | 72.5  | 63.67              | 62.5                 | 66.25          | below                   |                |

Table 12: Result summary report in each hospital standard based in Jimma Zone March2016.

| Facility      | Input | Technical practice | Provider interaction | Summary result | Score with facility | score with standard |
|---------------|-------|--------------------|----------------------|----------------|---------------------|---------------------|
| Limu-Genet    | 83.3  | 77.76              | 77.76                | 79.6           | Above               | scored              |
| Agaro         | 83.3  | 62.85              | 62.85                | 69             | below               |                     |
| Shanan-Gibe   | 83.3  | 58.75              | 58.75                | 67.68          | below               |                     |
| Seka-Chekorsa | 74.5  | 72.25              | 66.67                | 73             | Above               | scored              |
| Total         | 81    | 68                 | 66.5                 | 72.32          | Above               | scored              |

Table 13: Composite result of technical quality care in Jimma Zone public health facilities March2016

| Activities                      | Standard | Overall Percentage | Met/Unmet |
|---------------------------------|----------|--------------------|-----------|
|                                 | >=70%    |                    |           |
| Input result                    | 70%      | <b>75.9</b>        | Met       |
| Technical practice              | 70%      | 65.67              | Unmet     |
| Providers to client interaction | 70%      | 63.4               | Unmet     |
| Total quality score             | 70%      | 67.6               | Unmet     |

⇒ The overall structure and process result scored in 07 facilities above 70% were met the standard and 10 facilities result shows below the standard.

## **Chapter-Six**

### **Discussion**

In this section we used to compare, the facility requirement standard guideline and multiple quality indicators composite quality score measurement method in the behavior of variable category in terms of structure and process finding.

Based on the standard the physical setting assessment showed that all hospitals and 5 health centers had standard rooms for providing service with available and functional water and electricity. This was met the minimum standard. This finding was similar to the study conducted in Indian hospitals (19). But functionality was different in those 8 facilities scored below the standard.

Based on the qualitative finding report the reason was mentioned that, facilities have inadequate budget and they were collecting inadequate revenue this may due to the low customers flow in the facility and it may be due to less attention & non functionality of facility board.

The ambulance utilization gap in six public health facilities shows may be due to all available ambulance were not ready for twenty four hours service in terms of secured budget& maintenance. And also based on the utilization guideline the ambulance service may not be assigned for maternal health service only.

The availability of infection prevention supply and practice was adequate 70.6% in all hospitals and 08 health centers .This finding was in line with the study conducted in descriptive healthy facility survey in six sub-Saharan Africans result of above 64% ((24).

This may be due to those facilities have active and functional infection prevention case team and the gap shows in the rest facilities may be due to shortage of supply , trained providers and nonfunctional case team in infection prevention area as per key informants reported boldly.

Majority of facilities have fully available essential drugs in their stock .But 5 health facilities scored below the standard. This result was similar with the study conducted in technical and perceived quality in sub- Saharan African show essential drugs availability were in short supply (27). This may be due to the distribution of drugs from pharmaceutical fund& supply Agency



(PFSA) in short supply, lack of early preparedness & report of essential drugs request to the respective organization.

Standard guideline and functional partograph fully available were used to prevent prolonged /obstetric labor and it is important to update standard and protocol for service delivery. This was practiced in all hospitals & in 9 health centers scored above 70%. This is in line with the study conducted on the use of partograph in Ethiopia & Madagascar were 83.6% & 88% respectively (24). The rest 04 facilities scored below the standard showed may be due to the partograph distribution were in short supply in their facility and lack of early preparedness and request.

Each service units of the health facilities shall maintain a sufficient number of staff with the qualifications, training and skills necessary to meet client needs as per the standard. Excess professionals as the hall and in maternal health unit were available in all hospitals and four health centers. Only 03 health centers score minimum standard. While the number of professionals were insufficient in 6 health centers. The descriptive technical & perceived quality study conducted in six sub Saharan Africans shows quality service & delivery rates in the facility were higher in areas of the required number of professionals available in the facilities (22).

This may be due to unequal distribution to all facilities in the same approach and the gap in following the professional's minimum requirement criteria. And may be due to professionals turn over in terms of in accessible environment, like living house, communication and transportation access.

Availability rooms for labor ward in six health centers show more than half or 54% facilities were not fulfill the minimum facility standard. This may be due to lack of common understanding of plan agreement interns of rooms design.

Quality performance evaluation review were not functional in 9 facilities shows may be due to majority of facilities have no functional schedule for their daily base activities This may also due to lack of supportive supervision practice from WHO/ZHD & the gap in active follow up from the facility board.

During observation the interaction between providers to client relation result shows the procedures were conducted low at night rather than day time.

In management of labor stages, team spiritual practiced and complete medical record were applied high in day time than night. Based on the quality dimension criteria the technical quality practiced at night in delivery rooms were below the standard This may be due to providers were more practiced team work at day time than at night and may due to lack of active follow up at night and gap in morning session evaluation.

Having continuous refreshment training for health care providers had improved their knowledge to provide quality service in labor ward.

Each staff member shall receive ongoing Continuing Professional Development (CPD) to maintain or advance his or her skills and knowledge(31).The result shows the providers working in Shene-Gibe hospital and Sombo, Bulbul, Limu-Genet, Ambuye&Yachi health centers have in service training gap. As the key informants reported boldly, untrained providers were new comers with the short period experienced and trained providers were transferred to other facilities without having replacement in the facilities .This may be due to lack of continuous regular planning schedule tore fresh for those professionals having training gap and early replacing for those trained providers whenever they transfer to other facility.

The comprehensive Emergency obstetric care services conducted in all hospitals & basic Emergency obstetric care in 8 health centers, show the hospitals were always available for 24 hours and basic emergency obstetric service were not functional in 5 health centers may be due to lack of trained providers & adequate supply available in the facilities based on the facility standard,

Majority of providers were not practiced the management of labor at four stages after removal of placenta. This causes of immediate fourth stage hemorrhage that is greater blood loss and morbidity. This may be due to lack of active and functional management case team in delivery room.

The time accounts only 45.4% at first timing and 77.2% at second timing show majority of clients stay in waiting room for long time and majority of providers were not respectful to practice actual working time. This study in line with study conducted in Nairobi – Kenya Pumwani Maternity Hospital shows the gap the relation in between the client to provider waiting time. The agreed waiting time from facility standard was 61.8%(27).This may be due poor time management and inactive follow up practice in the facility.

Majority of 76.2% providers keep their clients privacy above the standard. This finding was similar to the study conducted in India which was 75%. But providers respectful to their clients were only 58.7%. This may be due to providers were disappointed where they are working in rural facilities.

The correct protocol of actual ventilation procedures were practiced during observation within 90 (52.3%) out of total observation. This finding was not similar with the study conducted in sub-Saharan Africa shows 34%. And also good practice in appropriate clean cord care shows may be due to the integrated management of neonatal care illness (IMNCI) program were started for providers at facility level.

The providers were low practice initiating breast feeding and receiving BCG & Poli0 vaccine for new born. These procedures were applied during early postnatal period. This was why the fourth stage labor practice performance was low during observation. These shows may be most providers missed early postnatal period procedures.

In this section we used to compare, the facility requirement standard guideline and multiple quality indicators composite quality score measurement method in the behavior of variable category in terms of structure and process finding.

Based on the report summary facilities were compared to similar facility and facilities were compared to standard requirement. Having this the result shows Limu-Genet & Seka Chekorsa hospitals have relatively high score than other hospitals and Seka, Serbo, Agaro, Gembe, Jimma & Boyokechema health centers were relatively higher score than others. This may be due to that 8 public health facilities were followed facility reform requirement criteria throughout their daily based activities. And 9 facilities have an assignment to focus on the issues of facility reform application.

The overall assessment result shows there are major gaps that to insure technical quality in the area of like functional board in the facility, Lack of regular supportive supervision, in active performance review team, nonfunctional community forum in the facility, lack of Continuing Professional Development skill training and insufficient number of health care providers with the qualifications, training and skills necessary to meet client's needs as per the standard.

## **6.2. Limitations**

An assessment of health care providers through observation while they did delivery services they tried to change their behavior, and usually it might be reflected on matters related to what they know including resection to their clients. This may affected effectively to assess/measure technical quality. This observed reality may that was reflected in this study. But we used to reduce this limitation by having common understanding with the provider on the issue of technical quality focus area. The technical quality result addressed over all on the area of facility but not provider oriented.

## **Chapter Seven**

### **Conclusion and Recommendation**

#### **7.1. Conclusion**

Based on the above findings we conclude that all hospitals and majority of health centers fulfill the criteria on input availability. But there was a gap in over use and under use of professionals in the facilities.

In majority of public health facilities, the technical practice and interpersonal skill on provider to client interaction practice were not carried out based on the standard guideline

This shows relatively there is adequate input to carry out technical quality service. But the functional process practice was not proportional to input.

To summarize overall technical quality care, in terms of input and process cumulative result shows there is low quality service and the facilities have an assignment to insure technical quality service at all level.

## **7.2. Recommendations**

### **Health facilities**

- The facility should have functional plan on routine monitoring and evaluation of each activity on daily basis.
- The facility should initiate and plan schedule for community forum regular meeting.
- The facility should have functional quality performance review team.
- The facility should practice experience sharing within all providers working in maternal health on active management of third & fourth stage of labor procedures.
- The facility provides strong monitoring at night duty to improve quality service.
- Always practice on complete record every service at the end of the procedures.
- Always practice monthly, quality assurance sampling technique to ensure quality.
- To address appropriate quality service facilities should give emphasis for actual service time.

### **Facility board**

- The board shall have the authority and responsibility for the direction and policy of the health facilities and should focus on functional rule and procedures availability in the facilities.
- The board should follow the guideline to ensure facility reform throughout.
- Systems should be in place for ensuring the quality of all services, care and treatment provided to clients.

### **Woreda health office/Zonal health department**

- The office should provide supportive supervision regularly and focus on facility need special support based on the finding.
- The office should plan to implement technical support for their available gap.
- Plan and implement in service training for providers in the area of maternal health service to improve the quality.
- The office should secure the availability of professionals by their discipline in all health centers and revise the professional distribution from excess to in adequate areas to balance the professionals mix in between facilities based on their needs.

### **Regional health bureau**

- The bureau should try to address on those facilities have challenges to ensure technical quality service.
- The bureau shall better to revise professional distribution in maternal health by their discipline due to address technical quality service at all level.
- The bureau should full-fill the provider's capacity for maternal health to improve quality service.

### **Researchers**

- Based on the base line data researchers will better to conduct further study of technical quality, and associated factors in different perspectives.
  - ⇒ The overall structural, technical practice and providers to client interaction major problems shows that facilities and respective organization have an assignment to fill the gap & to ensure technical quality in maternal health unit.

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## **Annex**

### **Annex Measurement instruments**

**Jimma University**

**College of health Science**

**Department of Health Economics, Policy and Management**

#### **1. Health center and Primary Hospital Related Questions**

Questionnaires to assess the technical quality of institutional delivery services among Health care providers prior to the survey in Jimma Zone and Jimma Town administration

Hello! My name is -----I am one of the members of the research team. The purpose of this questionnaire is to gather information on technical quality of institutional delivery service inputs and Health care providers with relation to mothers who are at the time of delivery service.

I have identified you as a study participant hoping that you would be willing to help me by providing with some information. I have several questions which I would like to ask you, if you have the time and are willing. The questionnaires include socio Demographic factors, Facility related, obstetric factors, delivery service utilization, and professional factors. All information you provide will be kept confidential. I will not include any identifiers,

Such as your name or exact address. Only honest answers would contribute to improvement of quality service. Your role in the success of the research is important and I appreciate your contribution to the research. Would this be okay with you?

I understood about the advantage of the research and the roles I will have in the research. I have agreed to participate in the research.

## Part I. Socio demographic factors for public health facility

(1.for Health center, 2.for primary hospital), code 1-17.

| SN | Questions               | Choice Answers | Remarks   |
|----|-------------------------|----------------|-----------|
| 1  | Facility code           |                | In number |
| 2  | Facility type           |                |           |
| 3  | Facility service year   |                |           |
| 4  | Distance from ZHD in KM |                |           |
| 5  | Distance from WHO in KM |                |           |

## Part II. Structure related questions.

2.1. Physical Setting:(Oral report&observation)( 9 item). Score: 1 for yes,0 for no.

| S.N | Standard& criteria   | Yes/no |    | Remarks |
|-----|--|--------|----|---------|
|     |  | yes    | no |         |
| 1   | Availability of water source in the facility   |        |    |         |
| 2   | Water supply is continuously Available/functionality for 24 hours.                           |        |    |         |
| 3   | Availability of electric supply for 24 hours;  |        |    |         |
| 4   | Does the health institution have stand by generator? If no What alternative means do you use |        |    |         |
| 5   | Does the health institution have transportation facility                                     |        |    |         |
| 6   | Does the health institution have Ambulance service for 24 hours?                             |        |    |         |
| 7   | Does the health institution have enough budget for Ambulance maintenance and fuel,           |        |    |         |
| 8   | Telephone service should be available functional?  |        |    |         |
| 9   | Is there suggestion box/log in the labor ward?   |        |    |         |
|     | Total score for infrastructure   |        |    |         |

## 2.1. Availability of rooms for delivery service

(Interview, Observation)(11 items)(1 for yes,0 for no).

| SN | Item  | Yes/no |  | Remarks |
|----|---|--------|--|---------|
| 1  | Room for laboring (prenatal room).  |        |  |         |
| 2  | Room for Delivery (second stage room).                                    |        |  |         |
| 3  | Room for maternity (post-natal room).                                     |        |  |         |
| 4  | Hand washing basin in each room,  |        |  |         |
| 5  | Toilet room with shower facility, inside or adjacent to the ward.         |        |  |         |
| 6  | Is the rooms are well ventilated.   |        |  |         |
| 7  | The prenatal and post-natal rooms accommodate a minimum of two beds.      |        |  |         |
| 8  | Is there free area reserved for neonatal resuscitation in the labor ward. |        |  |         |
| 9  | The hospital shall have separate admission room for obstetric patients.   |        |  |         |
| 10 | There shall be a separate nurse station close to delivery room.           |        |  |         |
|    | <b>Total Score</b>  |        |  |         |

## 2.2. Basic supply& equipment for delivery services :( Oral report inventory) (8Items);

1 for yes, 0 for no.

| S.N | Supply& equipment   | yes /no |  | Remarks  |
|-----|---|---------|--|--|
| 1   | The availability of essential equipment in the facility based on the standard?        |         |  | Based on list of availability. complete 'yes' otherwise 'no' |
| 2   | The availability of infection prevention risk reduction supplies in the delivery room |         |  |  |
| 3   | Are all essential drugs available for in labor ward                                   |         |  | Based on the guideline                                       |
| 4   | Does the labor ward have an emergency drug with labeled?                              |         |  |  |
| 5   | Is there a screen to ensure client privacy?   |         |  |  |
| 6   | Availability& functionality of partograph in maternity                                |         |  |  |
| 7   | Is there section bulb available   |         |  |  |
|     | Total score for infrastructure  |         |  |  |

## 2.2. Basic & necessary supply & equipment for delivery services In Health center

| SN | Items                                   | Yes/no | Functional | Non-functional |
|----|---|--------|------------|----------------|
| 1  | Delivery coaches                        |        |            |                |
| 2  | Stethoscope                             |        |            |                |
| 3  | Sphygmomanometer                        |        |            |                |
| 4  | Fetoscope.                              |        |            |                |
| 5  | Thermometer                             |        |            |                |
| 6  | Weighing scale, Adult                   |        |            |                |
| 7  | Weighing scale, Baby.                   |        |            |                |
| 8  | Specula of different size               |        |            |                |
| 9  | Delivery sets.                          |        |            |                |
| 10 | Delivery forceps                        |        |            |                |
| 11 | Episiotomy set                          |        |            |                |
| 12 | Measuring tape.                         |        |            |                |
| 13 | Infant meter and height scale           |        |            |                |
| 14 | Suction, manual.                        |        |            |                |
| 15 | Stand lamp.                             |        |            |                |
| 16 | Refrigerator                            |        |            |                |
| 17 | Infusion stand. _____                   |        |            |                |
| 18 | Instrument trolley                      |        |            |                |
| 19 | Instrument tray.                        |        |            |                |
| 20 | Autoclave or sterilizer (steam and dry) |        |            |                |
| 21 | Baby crib                               |        |            |                |
| 22 | Pickup forceps with jar                 |        |            |                |
| 23 | Vacuum extractors                       |        |            |                |
| 24 | Suction apparatus.                      |        |            |                |
| 25 | Resuscitation set.                      |        |            |                |

## 2.2. Basic & necessary supply & equipment for delivery services In Primary hospital

| SN | Items                         | Yes/no | Functional | Non-functional |
|----|-------------------------------|--------|------------|----------------|
| 1  | Delivery coaches              |        |            |                |
| 2  | Stethoscope                   |        |            |                |
| 3  | Sphygmomanometer              |        |            |                |
| 4  | Fetoscope.                    |        |            |                |
| 5  | Thermometer                   |        |            |                |
| 6  | Weighing scale, Adult         |        |            |                |
| 7  | Weighing scale, Baby.         |        |            |                |
| 8  | Specula of different size     |        |            |                |
| 9  | Delivery sets.                |        |            |                |
| 10 | Delivery forceps              |        |            |                |
| 11 | Episiotomy set                |        |            |                |
| 12 | Measuring tape.               |        |            |                |
| 13 | Infant meter and height scale |        |            |                |
| 14 | Suction, manual.              |        |            |                |
| 15 | Stand lamp.                   |        |            |                |
| 16 | Refrigerator                  |        |            |                |
| 17 | Infusion stand. _____         |        |            |                |
| 18 | Instrument trolley            |        |            |                |
| 19 | Instrument tray.              |        |            |                |
| 20 | Autoclave                     |        |            |                |
| 21 | Sterilizer (steam and dry     |        |            |                |
| 22 | Baby crib                     |        |            |                |
| 23 | Pickup forceps with jar       |        |            |                |
| 24 | Vacuum extractors             |        |            |                |
| 25 | Suction apparatus.            |        |            |                |
| 26 | Resuscitation set.            |        |            |                |
| 27 | Laparotomy sets               |        |            |                |
| 28 | Caesarian section sets        |        |            |                |
| 29 | Craniotomy set                |        |            |                |

### Technical skill Items

**2.3.Availability of professional mix (oral reported & document review) (8Items)**

| S.N | Professionals mix for<br>Primary Hospitals  | 1 for yes,0 for<br>no |    | Remarks(list<br>the total no) |
|-----|---|-----------------------|----|-------------------------------|
|     |   | yes                   | No |                               |
| 1   | Is adequate number of professionals in the hospital based on standard?                        |                       |    |                               |
| 2   | Adequate number of midwives or experienced; clinical nurses for Hospital in delivery service? |                       |    |                               |
| 3   | Adequate number of Emergency surgical officer in the hospital?                                |                       |    |                               |
| 4   | Is Anesthetic nurse in the hospital?  |                       |    |                               |
| 5   | Adequate number of scrub nurse in the hospital?   |                       |    |                               |
|     | <b>For Health centers</b>   |                       |    |                               |
| 6   | Is adequate number of professionals available in the health center? Based on the standard.    |                       |    |                               |
| 7   | Adequate number of Health Officers in health center?  |                       |    |                               |
| 8   | Adequate number of Midwives in health center?   |                       |    |                               |
| 9   | Is the facility have guideline for delivery room  |                       |    |                               |
| 10  | Total score for infrastructure  |                       |    |                               |

### ***3 .Provider to client interaction checklist for observation***

#### ***Instruction for the observation.***

Write number, or statements or word of the observed care provider in front of the question of space provided based on the instruction.

Starting time \_\_\_\_\_: End time \_\_\_\_\_:

**2.1 Health facility** Code number \_\_\_\_\_

Date of data collection-----

Name of data collector----- signature-----

Time of observation \_\_\_\_\_ (1.Day, 2.Night).

001. Questionnaire Code \_\_\_\_\_

#### **2.2. Back ground information of the provider**

2.2.1. Residence 1. Urban 2. Rural

**2.2.2 Age of provider** \_\_\_\_\_

**2.2.3. Qualification** \_\_\_\_\_ (1.MWDiploma \_\_\_\_\_, 2.MWDegree, \_\_\_\_\_ 3.Health officer \_\_\_\_\_, 4. Emergency surgical officer, \_\_\_\_\_ 5.Others \_\_\_\_\_.

2.2.4. Provider working experience here?

1.6 months and above 2. Less than 6 months -----go to next care provider.

2.2.5. Providers living house, 1.In the facility, 2.outside the facility

Name of supervisor----- signature-----



## Part II. Process

### 2.1. Technical practice related for care provider (Interview & Document review)

(10.Items) 1 for yes, 0 for no.

#### 2.1.1. Health Center

| S.N | Type of services  | Yes/no |  | Remarks                                    |
|-----|---|--------|--|--|
| 1   | The facility should supervise a regular supportive supervision by the nearest upper level?                          |        |  |  |
| 2   | The facility should conduct quality performance review meeting regularly?   |        |  |  |
| 3   | The health care providers should conduct in service & refreshment training regularly?                               |        |  |  |
| 4   | LQAS technique provide regularly  |        |  | Complete care "yes" otherwise "no"         |
| 5   | The facility providing; Basic Emergency Obstetric Care (BEmOC).with available supply for 24 hours a day, (6 Items). |        |  | All 6 Items available "yes" otherwise "no" |
| 6   | Is there referral linkage with the next facility  |        |  |  |
| 7   | Is there newborn corner with radiant warmer   |        |  |  |
| 8   | Completeness of medical records of delivery   |        |  | "<br>All recorded "yes" otherwise "no".    |
|     | Total score   |        |  | Monthly                                    |

## Part II. Process

### 2.1. Technical practice Related for care provider (Interview, Document review) review)

(9 Items) 1 for yes, 0 for no.

#### 2.1.2. Primary Hospital

| S.N | Type of services  | Yes/no |  | Remarks   |
|-----|---|--------|--|---|
| 1   | The facility should supervised regular supportive supervision by the nearest upper level? |        |  |   |
| 2   | The facility should conduct quality performance review meeting regularly?                 |        |  |   |
| 3   | The health care providers should conduct in service & refreshment training regularly?     |        |  |   |
| 4   | LQAS (Lot Quality Assurance Sampling) technique provide regularly?                        |        |  | Put no. of frequency in the last 6 months ( ).<br>If all provided 'yes' otherwise 'no'. |

|   |   |  |  |  |
|---|---|--|--|--|
| 5 | The facility providing Comprehensive Emergency Obstetric Care (CEmOC).with available supply for 24 hours a day, (8Items)? |  |  | All 8 Items available”yes” otherwise “no”. |
| 6 | Appropriate caesarean section (CS) teams are always available for emergency CS?   |  |  |  |
| 7 | Is there referral linkage with the next facility?   |  |  |  |
| 8 | Is there newborn corner with radiant warmer?  |  |  |  |
| 9 | Completeness of medical records of delivery?  |  |  | All recorded “yes” otherwise “no”.         |
|   | Total score   |  |  |  |

## 2.2.Provider to client interaction checklist for direct observation

(19 items)(1 for yes,0 for no).

| SN         | Activity type  | Yes/no | Remarks                            |
|------------|--|--------|------------------------------------|
| <b>I.</b>  | <b>Timeliness</b>  |        |                                    |
| 1          | Did care provider help the clients with appropriate time?  |        | Based on the Guideline?            |
| 2          | Does the care providers punctual to actual service time?   |        |                                    |
| 3          | The health care provider practiced basic emergency obstetric service?.   |        | Full practice’ yes’ otherwise ‘no’ |
| <b>II.</b> | <b>Professional discipline</b>   |        |                                    |
| 1          | The health care provider identification badge shall be worn with full description of his name, profession and department facing outward. |        |                                    |
| 2          | Is the health care provider worn professional uniform at the time of service?  |        |                                    |
| <b>III</b> | <b>Inter relationship related</b>  |        |                                    |
| 1          | Care providers called their clients by their name to come in to delivery room?   |        |                                    |
| 2          | Health care providers show politeness to their clients?  |        |                                    |
| 3          | Are health care providers gave chance for clients to talk?   |        |                                    |
| 4          | Health care providers keep clients privacy?  |        |                                    |
| 5          | Is the care provider respectful to the clients?  |        |                                    |
| <b>IV</b>  | <b>Management of normal labor stage</b>  |        |                                    |
| 1          | First stage labor at initial stage   |        |                                    |

|           |   |  |  |
|-----------|---|--|--|
| 2         | Second stage labor  |  |  |
| 3         | Third stage labor   |  |  |
| 4         | Fourth stage labor  |  |  |
| <b>V.</b> | <b>Providing basic neonatal care</b>  |  |  |
| 1         | Is the correct protocol of the actual ventilation procedure for newborn baby? |  |  |
| 2         | Appropriate practice of clean cord care?                                      |  |  |
| 3         | The providers apply APGAR score for new born?                                 |  |  |
| 4         | The newborns were breastfed within the first hour after birth?                |  |  |
| 5         | The newborns were received BCG& polio 0 immediately after birth               |  |  |
|           | <b>Total score</b>  |  |  |

**3.2. Key informant interview guide for in-depth Interview**

Facility name \_\_\_\_\_ Respondent; Sex \_\_\_\_\_ Age \_\_\_\_\_ Educational status \_\_\_\_\_ duty \_\_\_\_\_

1. How can you define the quality care services provided technically in institutional delivery in your organization? \_\_\_\_\_

2. What are the main problems to ensure technical quality care in institutional delivery? (In terms of input technical practice and provider to client interaction). \_\_\_\_\_

3. What strategy will be used to improve the technical quality of delivery service in your facility? \_\_\_\_\_

**3.2 ለጤና ተቋም ቀጥተኛ ተሳትፎ ላላቸው ቁልፍ ባለሙያዎች የተዘጋጀ ቃለ መጠይቅ**

የተሳታፊዎች ስም \_\_\_\_\_ የሙያ ደረጃ \_\_\_\_\_ የሥራ ሀላፊነት \_\_\_\_\_

1. በተቋሙ የማዋላጃ ክፍል ውስጥ የሚሰጠው የወሊድ አገልግሎት ጥራት ከተቋሙ ግብዓት አቅርቦትና ከባለሙያዎች አገልግሎት አሰጣጥ አንጻር እንዴት ገልጸዋለህ? \_\_\_\_\_

2. በተቋሙ የወሊድ አገልግሎት ጥራት ላይ በግብዓት አቅርቦትና በባለሙያዎች አገልግሎት አሰጣጥ ላይ የሚታዩ የጥናትና ማካቆሻ/ቸግሮች ምን ድንገቶች ናቸው? \_\_\_\_\_

3. ለወደፊት በተቋሙ ውስጥ በባለሙያዎች ሰጠውን የወሊድ አገልግሎት አሰጣጥ ጥራት ለማሻሻል ምን ዓይነት ደረጃዎች ላሉት? \_\_\_\_\_

**Reference;**

**Assessment tools adapted from;**

- ❖ *Maternal Newborn Care quality Improvement & Assessment Tool for Hospitals & Health centers (FMOH-May 2015)*
- ❖ *Quality Dimension Measurement Tool. (Donabedian) 2006.*
- ❖ *ETHIOPIAN STANDARD- ES3617:2012 Primary Hospital & Health center- Requirements. (Adapted).*


**4: Birth flow, the previous 6 months delivery performance &No.of death per facility (July 2015-December 2015)**

| S<br>N | Woreda            | Facility<br>type | Six months |        |   | Delivery type |    |           | Birth flow /day |    |           | No. of<br>death/6m |     |
|--------|-------------------|------------------|------------|--------|---|---------------|----|-----------|-----------------|----|-----------|--------------------|-----|
|        |                   |                  | plan       | Perfor | % | N             | CS | Othe<br>r | N               | CS | Othe<br>r | Mat.               | Nn. |
|        |                   |                  |            |        |   |               |    |           |                 |    |           |                    |     |
| 1      | Seka-<br>Chekorsa | HL-01            |            |        |   |               |    |           |                 |    |           |                    |     |
|        |                   | HC-02            |            |        |   |               |    |           |                 |    |           |                    |     |
|        |                   | HC-03            |            |        |   |               |    |           |                 |    |           |                    |     |
| 2      | Shebe-<br>Sombo   | HC-04            |            |        |   |               |    |           |                 |    |           |                    |     |
|        |                   | HC-05            |            |        |   |               |    |           |                 |    |           |                    |     |
| 3      | Limu-<br>Kosa     | HL-06            |            |        |   |               |    |           |                 |    |           |                    |     |
|        |                   | HC-07            |            |        |   |               |    |           |                 |    |           |                    |     |
|        |                   | HC-08            |            |        |   |               |    |           |                 |    |           |                    |     |
| 4      | Gomma             | HC-09            |            |        |   |               |    |           |                 |    |           |                    |     |
|        |                   | HC-10            |            |        |   |               |    |           |                 |    |           |                    |     |
| 5      | Agaro             | HL-11            |            |        |   |               |    |           |                 |    |           |                    |     |
|        |                   | HC-12            |            |        |   |               |    |           |                 |    |           |                    |     |
| 6      | Kersa             | HC-13            |            |        |   |               |    |           |                 |    |           |                    |     |
|        |                   | HC-14            |            |        |   |               |    |           |                 |    |           |                    |     |
| 7      | Jimma             | HL-15            |            |        |   |               |    |           |                 |    |           |                    |     |
|        |                   | HC-16            |            |        |   |               |    |           |                 |    |           |                    |     |
|        |                   | HC-17            |            |        |   |               |    |           |                 |    |           |                    |     |
| 8      | Total             |                  |            |        |   |               |    |           |                 |    |           |                    |     |

**Annex II: List of selected Woredas and town administration with respective HCs that will be studied due to fulfillment of inclusion criteria ( $\geq 6$  months functionality)**

**Name of selected Woredas'/town and respective health centers**

|                     |                      |
|---------------------|----------------------|
| 1. Agaroworeda      | 4) Barachini HC      |
| 1) Agaro HC         | 5) Busa HC           |
| 2) Walda HC         | 6) AnjaGambo HC      |
| 2. Jimma town       | 6. LimuKossaWoreda   |
| 1) Jimma HC         | 1).Limu-GenetHC      |
| 2) Higher two HC    | 2) Ambuye HC         |
| 3) Bochobore HC     | 3) Babu HC           |
| 4) Mendera Koch HC  | 4) Chime HC          |
| 3. KersaWoreda      | 5) Gale Jimate HC    |
| 1) Serbo HC         | 6) HarawaJimate HC   |
| 2) Bulbul HC        | 7) WabeKoticha HC    |
| 3) BalaWajo HC      | 7. SekachokorsaWored |
| 4) KusayeBeru HC    | 1) Seka HC           |
| 5) Adare Gora HC    | 2) Wokito Medal HC   |
| 6) Kara Gora HC     | 3) KakeGudo HC       |
| 7) Kalacha HC       | 4) Sentema HC        |
| 4. ShebesomboWoreda | 5) BuyoKechema HC    |
| 1) Shebe HC         | 6) DetoKerso HC      |
| 2) Sombo HC         | 7) LiluOmoti HC      |
| 3) Kishe HC         | 8) Daboyaya HC       |
| 4) Mechi HC         | 9) GetaShewa HC      |
| 5). Yaach           |                      |
| 5. GommaWoreda      |                      |
| 1) Toba HC          |                      |
| 2) Gattokure HC     |                      |
| 3)Gembe HC          |                      |

 Total health centers=40\*30/100

## **Infection prevention Products for health facilities**

**The adequate supplies and equipment needed for infection prevention and control practice.**

### **A). Waste management equipment and supplies:**

- Incinerator
- Placenta pit
- Garbage bins
- Large garbage bin
- Plastic garbage

### **B). Cleaning material**

- Bucket
- Cleaning cloth
- Detergent
- 0.5% chlorine

### **C). Instrument processing**

- Autoclaves and steam sterilizers as appropriate,
- solution(diluted bleach)

- Test strips
- Chemicals

### **D) Hand hygiene**

- Sinks as appropriate water container with faucet
- Soap Alcohol based hand rub
- Personal Towels
- Paper Towels

### **E) Personal Protective Equipment**

- Heavy duty glove
- Surgical, Examination glove
- Dust mask
- Boots
- Other protective