ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF NURSING AND MIDWIFERY
POST GRADUATE PROGRAM

QUALITY OF PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV SERVICE AT SOUTH WOLLO ZONE GOVERMENTAL HOSPITALS, AMHARA REGION, ETHIOPIA, 2018.

BY: DEBRNESH GOSHIYE

A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCE SCHOOL OF NURSING AND MIDWIFERY FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER'S OF SCIENCE IN PEDIATRICS AND CHILD HEALTH NURSING

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APPROVAL SHEET

ADDS ABABA UNIVERSITY

COLLEGE HEALTH SCIENCE

SCHOOL OF NURSING AND MIDWIFERY

I, the undersigned MSc student, declare that I have submitted my original work on a title Quality of prevention of mother to child transmission of HIV service at governmental hospitals of south wollo zone ,2018 for the examination.

Submitted by:

Debrnesh Goshiye _____ _____

Name of student Signature Date

This thesis work has been submitted for examination with my approval as an advisor.

Approved by:

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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ARM	Artificial rupture of membrane
ARV	Antiretroviral
CI	Confidence interval
EMTCT	Elimination of mother to child transmission of HIV
FMOH	Federal Ministry of Health
FP	Family Planning
FDRE	Federal democratic republic of Ethiopia
HCT	HIV Counseling and Testing
HIV	Human Immunodeficiency Virus
IP	Infection Prevention
MTCT	Mother-to-child Transmission
MNCH	Maternal, newborn, and child health
PMTCT	Prevention of Mother-to-Child Transmission of HIV
PLHIV	People living with Human Immunodeficiency Virus
UNAIDS	Joint United Nations Program on HIV/AIDS
UNICEF	United Nation's Children VCT Voluntary Counseling and Testing
WHO	World Health Organization

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ABSTRACT

Background: Worldwide, an estimated 2.1 million children under the age of 15 are living with HIV. The main source of HIV infection in children is vertical transmission of HIV from mother-to-child during pregnancy, labor and delivery, or breastfeeding. Prevention of Mother-to-Child Transmission of HIV expanded out in accelerated fashion throughout Ethiopia with all public hospitals and health centers providing the services. However, published studies on the services' provision in the country are generally limited. If at all, they did not comprehensively examine quality of the services.

Objective: The aim of the study was to assess the quality of Prevention of Mother-to-Child Transmission of HIV service at governmental Hospitals of South Wollo Zone, Amhara Region, Ethiopia, 2018.

Methods: Convergent parallel mixed study was conducted at governmental hospitals of South Wollo Zone from February 15 to march 15, 2018. A total of 202 health professionals' were assessed using structured questionnaires' and 16 mothers were assessed by in-depth interview. The quantitative data were cleaned manually coded and entered into Epi - info version 3.1 and analyzed using SPSS version 20. Bivariate and Multivariate logistic regression, crude and adjusted odds ratio with their 95% confidence interval and p-value <0.05 were used to identify variables which had significant association with the dependant variable. The qualitative data were analyzed by thematic analysis.

Result: The overall quality of service on PMTCT was poor (47%). Majority (13) of the clients were satisfied by the service. Almost all respondents (15) were satisfied with PMTCT service providers and majorities (13) of the client were not satisfied with the counseling room privacy. Training in infant feeding counseling [AOR=6.422; 95% CI: (2.273,18.144)],training in family planning[AOR=3.825; 95% CI: (1.438, 10.172)], lack of PMTCT guidelines[AOR= 0.381; 95% CI: (0.170, 0.857)], provision of infant feeding counseling to all pregnant and breastfeeding women[AOR=4.620; 95% CI: (2.226, 9.609)] and availability of physical infrastructure with both auditory and visual privacy [AOR=3.076; 95% CI: (1.273, 7.431)] were associated with quality of PMTCT service.

Conclusion and recommendation: The overall quality of PMTCT of HIV is poor. But majority of the client were satisfied with the PMTCT service they got. There is a must for zonal health management and PMTCT focal personnel to ensure availability and use of PMTCT guidelines and sufficient supplies of recommended PMTCT commodities.

Keywords: Quality PMTCT service, South Wollo zone, Ethiopia, 2018.

1. INTRODUCTION

1.1. Background

Mother to child HIV transmission (MTCT), which is also called vertical transmission of HIV, is the mode of HIV transmission from the mother to her child during pregnancy, labour, delivery and breast-feeding. This mode of HIV transmission is the principal method of infection among children. About 95% of new infections in infants and young children come about through MTCT. The overall possibility of vertical HIV transmission in the absence of any intervention is between 20% and 45%. The risk of maternal-to-child-transmission (MTCT) by periods of transmission is: 5-10% is in-utero,10-20% is intrapartum,5-20% is through breastfeeding (1). Globally, there were 2.1 million children living with HIV, 120,000 AIDS-related deaths, and 160,000 new infections among children in 2016. Since 2010, new HIV infections among children have declined by 47%(2).

The overall goal of the Global Plan is the elimination of new HIV infections among children and keeping their mothers alive through prevention of mother to child transmission service.(3). PMTCT is a clinical approach for preventing the transmission of HIV from an infected mother to her child(4). World Health Organization (WHO) promotes a comprehensive approach for the Prevention of mother to child transmission programs that contain four prongs. These are preventing new HIV infections among women of childbearing age, preventing unintended pregnancies among women living with HIV, preventing HIV transmission to the baby and providing appropriate treatment, care and support to mothers living with HIV, their children and families(5).

In developing countries, the continuing HIV pandemic constitutes an increasing risk to pregnant women, their infants, and their families. Even though PMTCT is a part of HIV/AIDS services, developing and implementing a program complete with strategies for ARV prophylaxis, safer childbirth, and safer infant feeding practices is a complex process(4). Significant and substantial reductions in new pediatric infections can be achieved as a result of high coverage with effective interventions for prevention of mother-to-child transmission of HIV (PMTCT)(6).

The Prevention of Mother-to-Child Transmission of HIV program is a priority in the fight against AIDS in children in Ethiopia(7). Ethiopia has adopted the first PMTCT service guideline

on November 2001 and Option A in 2011. In early 2013, the Ethiopian government launched the country's Option B+ implementation, which will substantially increase provision of antiretroviral treatment to pregnant women living with HIV and aims to eliminate new HIV infections in children and keep their mothers alive(8).

Significant gains in prevention of mother-to-child transmission efforts and the rolling out of option B+ indicate that by the end of 2015, 67% of Ethiopia's estimated HIV-positive pregnant women were already on ART or newly put on antiretroviral treatment(ART)(9). The complexity of prevention of mother-to-child transmission of HIV is a major driver of poor service uptake. Because PMTCT involves multiple services for two different people (mother and infant), taking place at multiple points in time, usually in more than one service unit, there is often poor coordination among service providers, resulting in weak linkages and poor retention across the PMTCT continuum(4).

It is better to provide quality PMTCT service to eliminate new HIV infections in children and keep their mothers alive. Health care quality is defined as the extent to which health services enhance the opportunity of preferred health outcomes for individuals and populations and are consistent with recent proficient knowledge (10). Examining the quality of care can help to reveal important information about the quality of care afforded to patients. Donabedian proposed that one could assess whether high quality care is provided by examining the structure, process and outcome components. The structure indicates the condition of setting in which care is provided , process indicates the condition in the actual process of care or delivery of service, and outcome encompasses impacts or improvements achieved by the care(11).

1.2. Statement of the problem

Globally about 2.1 million children aged <15 years were living with HIV(12). In 2015, approximately 55% of new HIV infections (1.1 million of 2.1 million) were among women, children and adolescents(13). There were 7.1% HIV prevalence (15-49yrs): Almost 1 in 4 new infections in 2015 was among young people 15-24 years. Two-thirds of those were among adolescent girls and women women(14). In sub-saharan region, Children <15 years old accounts for an estimated 1.6 million new HIV infections and 91,000 deaths due to HIV/AIDS-related causes in 2015.From about 1.4 million pregnant women with HIV globally,90% were from sub sahara regions(13). According to UNICEF report there were nearly 1.2 million HIV-exposed infants among 21 priority countries most of which are from sub Saharan Africa including Ethiopia and these countries together accounts 90% of HIV positive pregnant women worldwide(15).

HIV/AIDS continued to be one of the top priorities on the health sector agenda for Ethiopian. According to Center of Disease Control(CDC) report HIV is the third common cause of death among children in Ethiopia (16). Ethiopia is among the top ten countries in the world with the highest burden of HIV infections among children due to mother to child transmission(3). About 57,132 children's were positive for HIV and there were 1,276 new HIV infections among children with age of 0-14 years(17). There is a data suggesting decline of recent infection - HIV incidence as indicated by Antenatal surveillance data on HIV prevalence among 15 - 24 year old pregnant women that shows significant reduction to 2.1% in 2012 from 12.4% in 2001(16).

Services for PMTCT have been applied in Ethiopia since 2001(18). WHO have been implement an Option A, B and B+ PMTCT guidelines at different times. Ethiopia had start to use option B+ in 2013 (8). It has seen noteworthy gain in PMTCT since the start of the program. Regardless of this progress, the success of the National PMTCT program to date is not in parallel to other Maternal and Child Health Programs(3).

In countries with generalized epidemics, the rapid expansion of provider-initiated HIV testing and counseling in Maternal, newborn, and child health(MNCH) settings and particularly in antenatl care(ANC) care setups and labour wards has been an effective way to increase uptake of PMTCT services(19). The Global Plan by Joint United Nations Program on HIV/AIDS(UNAID) 2015 shows

that most priority countries have a long way to go Cameroon, Chad, Côte d'Ivoire, the Democratic Republic of Congo and Ethiopia provided treatment to < 10% of their children living with HIV. In total, only 22% of children living with HIV were receiving HIV treatment in the 21 priority countries(20).

Even though there is a strong commitment for PMTCT to eliminate mother to child transmission, the quality of service provision is still in question. A summary PMTCT report in Ethiopia shows, there is a major gap in the quality of ANC and postnatal care. Generally, the availability of tracer items for PMTCT services was low (41%) , no any health facility having all tracer items for PMTCT service ,and a 50% and 62% availability of guidelines for PMTCT and staff trained in the facilities respectively(7).This may reflect efforts of the PMTCT program to provide adequate training to health workers in PMTCT.

There is also a need to address the substantial gap in reaching all pregnant women and address demand and supply side barriers, including weak referral system; lack of PMTCT services in many ANC facilities and low skilled birth attendance and post-delivery follow up, low awareness and fear of stigma and discrimination (21).Overall, a quite low (6%) percent of facilities had all tracer items for HIV counseling and testing service, 88% of the facilities room had visual and auditory privacy and condoms were available in 64 % of the facilities(7).

Facilities were less well prepared to offer services for exposed infants. Overall, about half to two- thirds of the facilities provided ARV syrup, cotrimoxazole, and vitamin A(18).Even though there was considerable variation across regions: availability of guidelines for PMTCT in Harari was highest (95%) compared with Gambella (33%). Amhara region have the lowest percentage of facilities that have tracer items for PMTCT services (38%). By facilities providing ART, Amhara and Somali region had the lowest percentage of facilities offering ART at 13% and 4% respectively(7).

This study therefore; by assessing quality of PMTCT service provided will be essential to provide baseline information intending to fill the gap and helps to discern new opportunities to scale up and improve the service to avert MTCT in South Wollo Zone, Amhara region, Ethiopia 2018.

1.3. Significance of the study

The study focuses on the assessment of quality PMTCT services to carry out the four prongs of national PMTCT strategy. By doing so, it will able the service user or the mothers and their children's to have quality PMTCT services so as to improve their health status.

It will also have a substantial value to program managers and policy makers for designing proper implementation and evaluation programs to achieve the national goals of reducing MTCT of HIV to < 2% by 2020.

One of the significance of this study for nursing profession is that it will assist to provide evidence based practice on PMTCT service of HIV that will improve promotive, preventive and curative care of infants and mothers.

The finding of this study will provide relevant information for future planning and interventions of appropriate strategies and help as a baseline data for those who are interested in carrying out further research with this area.

2. LITRATURE REVIEW

2.1. Concept of Quality of health care

To date, there is no universally accepted definition of "quality". It progressively becomes vital aspect of health care that is given a priority now a day. More or less every person would say that there is a need of high quality health care and most people have an instinctive sense of what that means(22). By capturing the features of all definition from different perspective, Institute of Medicine defines quality health care as the level to which health services that are in line with the current professional knowledge promotes and increases the desire health outcome for individual and population(23).

In Ethiopia, quality and equity are defined together, believing that the two must go hand-in-hand. Using the prioritized domains, quality in Ethiopia is defined to be comprehensive care that is measurably safe, effective, patient- centered, and uniformly delivered in a timely way that is affordable to the Ethiopian population and appropriately utilizes resources and services efficiently. Digging deeper into quality, helps to forecast the three core elements of quality, namely quality planning, quality improvement, and quality control(23).

2.2. Measuring the health care quality

Measuring the quality of health care is important because it tells us how the health system is performing and leads to improved care. Quality measurement in health care is the process of using data to evaluate the performance of health plans and health care providers against recognized quality standards. Quality measures can take many forms, and these measures evaluate care across the full range of health care settings, from doctors' offices to imaging facilities to hospital systems(24).

2.2.1. Structural elements for PMTCT services

Structure viewed as the capacity to provide high quality care (11). It refers to the characteristics of the setting in which care takes place including program inputs or efforts that enhance the

health facility readiness to provide the intended services when clients came for the required services(22).

Structure measures evaluate the infrastructure of health care settings, such as hospitals or doctor offices, and whether those health care settings are able to deliver care. These measures include staffing of facilities and the capabilities of these staff, adequate room for privacy, the policy environment in which care is delivered, and the availability of resources within an institution(24).

2.2.1.1. Human resource for quality PMTCT service

The recruitment and training of adequate number of health workers remains the mainstay of an effective health system. The shortage in trained workforce was the major barrier to achieving the 2015 HIV targets. A number of strategies have been taken to address the human resource challenges including the use of task shifting, deploying community health workers and relying more heavily on community networks and systems(25). Shortage in trained workforce at the health facilities can affect the quality of HIV counseling, provision of ART services and infant feeding counseling, which in turn affects the overall quality of PMTCT services offered at the facilities.

In Ukraine, a project to improve the quality of PMTCT service, observational data demonstrated that providers who participated in the training intervention delivered PMTCT counseling of a consistently higher quality than did providers who did not undergo training. According to the project access to and quality of VCT is affected by numerous service delivery gaps like resources to assure quality of VCT are not sufficient, providers are not adequately trained in VCT, and stigma inhibits the provision of appropriate and effective HIV-related support services(26).

A study conducted in Kenya shows about 90% of the counselors have received PMTCT training and providers generally had a negative attitude towards their clients , Over 90% of the respondents stated that they gave health talks at least once a week in the clinic on HIV transmission and prevention (27).

A study in Uganda shows that health workers providing PMTCT services were all trained in PMTCT service areas(28). Another qualitative study conducted in Lesotho South Africa to

explores the difficulties facing healthcare workers, the results revealed that poor infrastructure and shortage of supplies at the facilities hinder healthcare workers from performing their duties effectively(29).

2.2.1.2. Physical infrastructure for PMTCT

Adequate space with auditory and visual privacy is critical for effective provision of PMTCT services, in particular for maintaining confidentiality during counseling and testing of clients for PMTCT. There should be a counseling room with doors and windows to ensure auditory and visual privacy, functional labour and delivery unit, functional laboratory, running water & electricity supply(30).

Introducing PMTCT interventions into existing MCH and maternity services may require structural modifications to ensure that the health worker can talk with women (or couples/families) alone in a private room, allowing for confidential discussions of sensitive questions and topics(31).

A study conducted in Zambia shows that all the facilities were constrained with human resources and space for counseling was limited for most of the facilities. The room had no privacy and the facility was quite disorganized. Most of the mothers interviewed during the client exit interviews complained about it(32).

Another study conducted in Uganda shows that the space available for provision of PMTCT services at the health facilities was not adequate and lacked privacy, especially auditory privacy(28).

An institution based cross-sectional study conducted in Addis Ababa to assess utilization of PMTCT service shows that around 80% of the respondents reported adequacy of privacy and confidentiality during counseling(33).

Another study in Kafa zone shows that there was no separate counseling room for PMTCT services provision in the hospital(34).

2.2.1.3. Supplies for PMTCT

Ensuring adequate and continuous availability of quality and affordable essential medicines, diagnostics and other consumables at service delivery sites is a critical aspect in delivering quality PMTCT services. The minimum PMTCT supply requirement in includes test kits like rapid test kits recommended by country policy/ guideline, drugs like neverapine and cotrimexazole(30).

Availability of supplies for preventing HIV infection among hospital staff and patients is essential, particularly for nursing or laboratory staff conducting HIV testing and maternity staff delivering pregnant women. Essential supplies include clean gloves, sharps box, soap or other. disinfectant, disposable needles and household bleach(31).

A study conducted in Uganda to assess the quality of PMTCT service shows that PMTCT guidelines were not readily available at the health facilities(28).

A study done in Kafa zone shows all of the laboratory supplies, all the basic obstetric care supplies, supplies for infection prevention, like gloves, aprons and autoclave were available while there were lack of IP supplies like goggles and sharp boxes and also drugs like Nevirapine in both its tablet and syrup forms was available neither in ANC nor in delivery room(34).

2.2.2. Process of PMTCT service provision

The process encompasses the activities of giving and receiving care that means the patient's activities in seeking care as well as the practitioner's activities in providing care(35). It can refer to anything that is done as part of the encounter between health care professional and a patient, including interpersonal processes, such as providing information and emotional support, as well as involving patients in decisions in a way that is consistent with their preferences, etc(22)**.**

Process measures are used to determine the extent to which providers consistently give patients specific services that are consistent with recommended guidelines for care. Using a process measure, rather than an outcome measure, to evaluate the quality of care is valid with a strong evidence that there is a very high correlation between doing the right thing in the right way and getting good outcomes(35).

A cross sectional facility based study done Adama shows(N=31), most difficult problems in providing PMTCT related services were lack of feedback on job performance, inadequate pay and lack of training, which were reported by 93.5%, 77.4% and 58.1% of service providers respectively(36).

2.2.2.1. HIV counseling and testing

HIV testing is the critical first step in identifying and linking PLHIV to the treatment cascade and it also provides an important opportunity to reinforce HIV prevention among the negatives(37).

Pregnant and breastfeeding women access HIV treatment, care and prevention through a gateway of HIV counseling and testing (HCT) the goal of HCT services in PMTCT is to identify as many pregnant and breastfeeding women living with HIV as early as possible after acquiring HIV infection and link them appropriately and in a timely manner to prevention, care and treatment services(37).

Provider-initiated routine counseling and testing is recommended for all clients seen within the context of maternal care (i.e. antenatal, labour, immediate postpartum). This means that HIV testing is offered as a routine component of standard maternal health care(30).

HIV testing and counseling services must be accompanied by appropriate and high-quality pre-test information and post-test counseling. HIV testing and counseling providers should strive to provide high-quality testing services(37).

A qualitative study conducted in Lesotho shows the heavy workload and severe time constraints puts enormous stress on healthcare workers, stigma and discrimination emerged as major problems for healthcare workers, afraid of contracting HIV from their patients and this affects their delivery of services (29)**.**

2.2.2.2. Infant feeding counseling for PMTCT service

The feeding of infants and young children is crucial in determining the health, nutrition, survival, growth and development of an individual. Infant feeding counseling is an important intervention

for the prevention of mother-to-child transmission of HIV. A child has increased energy needs associated with HIV infection, which requires a proactive approach to nutritional support(1).

Counseling on infant feeding is an important and complicated component of PMTCT interventions in resource-limited countries. The content and quality of infant feeding counseling and the ongoing support for an infant feeding choice should be assessed. HIV-positive pregnant women should receive quality infant feeding counseling. This enables them to make the best infant feeding choice based on the local economic and social context, such as access to clean water and surroundings; income to ensure continuous supply for formula, if this is the chosen method; and stigma associated with certain infant feeding practices. In addition, women should receive continuing support for their infant feeding choice to ensure that infant feeding practices are consistently safe(31).

A study conducted in Adama shows among health professionals who provide PMTCT service 28(90.3%) offers infant feeding and counseling (36).

2.2.2.3. Basic obstetric care for PMTCT service

MTCT risk is increased by prolonged rupture of membranes, assisted instrumental delivery, invasive monitoring procedures, episiotomy, and prematurity. Only suction the baby's nose and airway when there is meconium-stained liquor(38).

Many strategies which prevent MTCT, including standard infection prevention precautions and limiting/avoiding unnecessary obstetric interventions, are protective for all women and their infants. Safe delivery practices and avoiding invasive procedures when possible (no artificial rupture of membrane to shorten labour, no routine episiotomy, avoid use of vacuum extraction and forceps if possible, limit vaginal examinations during labour, treatment of acute chorioamnionitis, early infant eye and cord care) are the recommended preventive measures(30).

A study conducted in Adama shows among health professionals who provide obstetrical care (n=29), only 21, and 1 of the professionals were instructed on safe obstetric practices for HIV-positive women, and do not deliver HIV positive women respectively(39).

2.2.3. Outcome elements for quality PMTCT services

Health outcomes include the traditional measures of survival, unintended effects of treatment (e.g., infection), and the relief of symptoms. Functional outcomes measures may center on limitations in performing daily activities such as going to work, attending school, doing housework, as well as physical, social, and mental functioning. Patient satisfaction measures address various aspects of patient experience in comparison to their expectations (11).

Outcome measures are, in effect, the "gold standard" for measuring the quality of care. However, it is much more difficult to gather and analyze outcome data than it is to measure structure or process. Ideally one would like to have data on each patient's health status before and after treatment for a large national sample of patients treated for each common condition. Instead, the only information available in most of our databases is information on what procedures were done and, to some extent, what adverse events occurred. Data on patient outcomes are usually missing(35).

A study conducted in kenya shows that 89% of HIV positive pregnant women satisfy with PMTCT counseling services(27). Another study conducted in Tanzania shows that 75.2% were satisfied with the counseling service provided and 76% of clients were satisfied with privacy when accessing services(40).

The study conducted in Kafa shows that level of satisfaction with the PMTCT service provision was very high(34). Another facility-based cross-sectional study conducted in Adama town shows that about three-fourth (74.7%) of clients reported that they were satisfied with the PMTCT services provided by the health facilities(36).

2.2.4. Quality of PMTCT services

Measuring the quality of health care is important because it tells us how the health system is performing and leads to improved care(24). Ensuring availability of health services that meet a minimum quality standard and securing access to them are key functions of a health system. Assessing quality of care can be difficult because it can cover both the complex processes of evaluating, diagnosing and treating a patient as well as the outcomes of that treatment for the patient(41).

The role of a strengthened health quality framework and strategy is to ensure that national policies, guidelines, and protocols around quality are reliably implemented, building off the extensive resources and infrastructure that the government has already put in place, thereby accelerating Ethiopia's efforts to close remaining gaps in health outcomes and ensure equity for our diverse population(23).

A study conducted in Uganda shows that the overall quality of PMTCT of HIV services offered to pregnant and breastfeeding women and their infants at the government health facilities studied is poor(68%)(28).

Another study in Kenya shows that about 86.7% of the health facilities sampled had satisfactory quality of PMTCT services(27).

2.3. Conceptual Framework

The conceptual framework was adapted from Donabedian's Lasting Framework for Health Care service Quality after some modification has made. It shows the structure, process and outcome components of quality health care service.

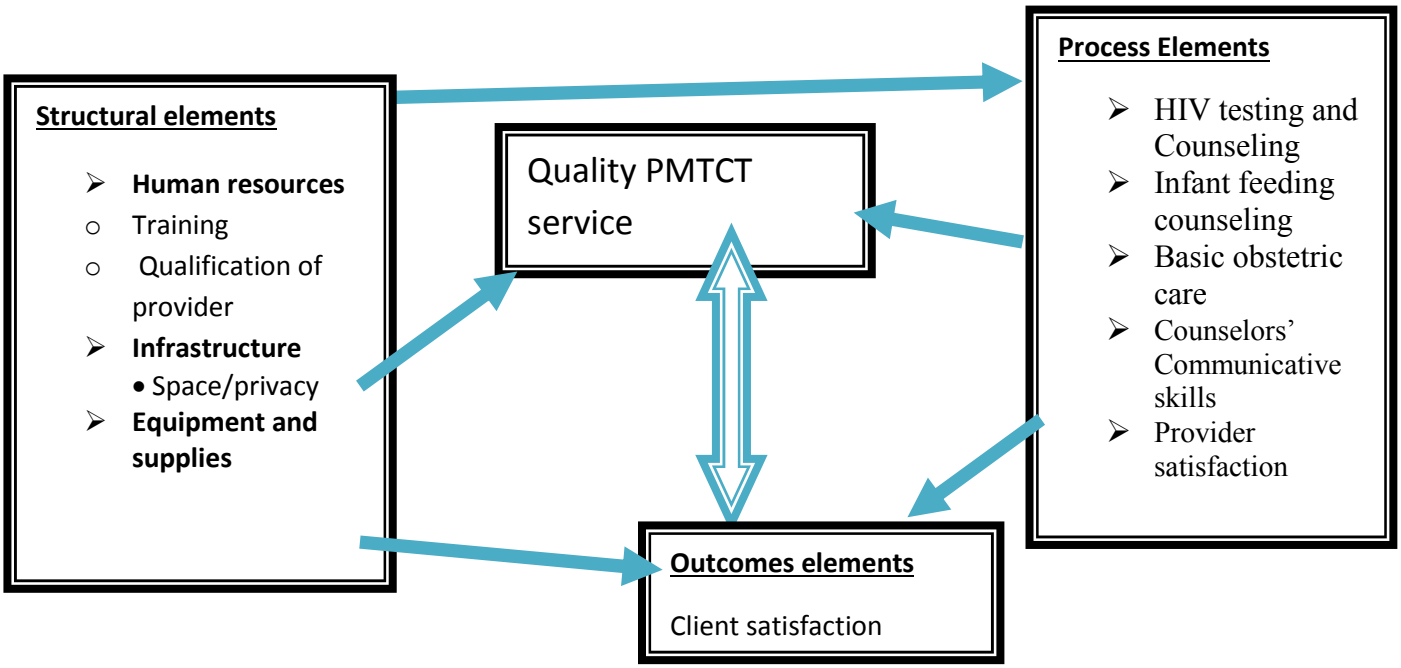


Figure 1.Conceptual frame work adapted from Donabedian's Lasting Framework for Health Care service Quality, 2016(42).

3. OBJECTIVE OF THE STUDY

3.1. General objective

To assess quality of PMTCT service in governmental hospitals of South Wollo Zone, Amhara Region, Ethiopia, 2018.

3.2. Specific objectives

To assess the process of PMTCT services delivery at governmental hospitals of South Wollo Zone, Amhara Region, Ethiopia, 2018.

To determine the structural elements available for the provision PMTCT services at governmental hospitals of South Wollo Zone, Amhara Region, Ethiopia, 2018.

To assess maternal satisfaction with PMTCT service at governmental hospitals of South Wollo Zone, Amhara Region, Ethiopia, 2018.

4. METHODS

4.1. Study approach

Convergent parallel mixed methods approach was conducted by collecting both quantitative data from health professionals providing PMTCT service using self-administered questionnaires and observational checklist and qualitative data from mothers through in-depth interview

4.2. Quantitative part

4.2.1. Study area and Setting

The study was conducted in South Wollo, zone which is bordered on the south by North Shewa and Oromia Region, on the west by West Gojjam, on the north by North Wollo, and on the east by Oromia Zone. It has area of 17,067.45 square kilometers. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), this Zone has a total population of 2,518,862, an increase of 18.60% over the 1994 census, of whom 1,248,698 are men and 1,270,164 women. While 301,638 or 11.98% are urban inhabitants, the largest ethnic group reported was the Amhara (99.33%); all other ethnic groups made up 0.67% of the population. Amharic is spoken as a first language by 98.65%, and about 70.89% were Muslim, and 28.8% of the population said they practiced Orthodox Christianity. There are 125 health centers, 11 governmental hospitals containing 1 referral hospital, and 3 other private hospitals.

4.2.2. Study Design and period

A facility based cross sectional study was conducted from February 15 to March 15, 2018.

4.2.3. Populations

4.2.3.1. Source population

The source population of the study was all health professionals providing PMTCT service in governmental hospitals of South Wollo zone, Amhara Regional State, Ethiopia

4.2.3.2. Study population

The study population was all health professionals who provide PMTCT service in the randomly selected public hospitals of South Wollo zone, Amhara Regional State, Ethiopia

4.2.3.3. Eligibility criteria

Inclusion criteria

All health professionals who provide PMTCT service in public hospitals of South Wollo zone Amhara Regional State and who are volunter to participate were included.

Exclusion criteria

Health professionals who provide PMTCT service in public hospitals in South Wollo and those who may be too sick to fill the questionnaire or to respond were excluded.

4.2.4. Sample size determination

The actual sample size for the study was determined by using single population proportion formula for single proportion population, $n_i = \frac{(Za/2)^2 p(1-p)}{(d)^2}$

Where **ni=** the maximum sample size

$Z_{(1-á/2)}$ = by considering 95 %confidence level, á will be 0.5 & the value of Z of 1.96

P= Proportion of health professionals providing quality PMTCT service = 0.5 (it is assumed that 50% of health professionals the institutions provide quality PMTCT service)

d= tolerable margin of sampling error = 0.05

Therefore; **n = (1.96)2 x 0.5 (1- 0.5)**

(0.05) 2

n = **384**

To determine the sample size the following assumption was used.

Since the total population (health professionals providing PMTCT service at all hospitals) was 360, which was less than 10,000, I used the correction formula: $n_f = \frac{n_i}{(1+\frac{n_i}{N})}$;

Where n_f = final sample size

n_i = initial sample size

N = total population

$n_f = \frac{384}{(1+\frac{384}{360})} = \frac{384}{\frac{744}{360}} = 185.806 \approx 186$

Taking none-response rate to be 10% using previous related research response rate =

$$186 \times 10\% \approx 18.6 = 19;$$

The final sample size was: 186+19 = 205 health professional.

4.2.5. Sampling Procedure

There were eleven governmental hospitals in South Wollo Zone and among these, 6 hospitals were selected randomly. The sample size were allocated proportionally for each hospital by the formula $n_j = \frac{n}{N} N_j$

Where N is the total number of PMTCT service providers at randomly selected hospitals.

$\mathbf{N_j}$ is number of PMTCT service providers PMTCT service at each randomly selected hospitals , **n** is the calculated sample size.

$\mathbf{n_j}$ is the proportional number of PMTCT service providers to be taken from each hospitals.

Simple random sampling technique or lottery method was used to select sampled health professional providing PMTCT service from each hospital. Each study unit in the population who are present during data collection was represented by a slip of paper, these were put in a box and were mixed, and a sample of the required size was drawn from the box.

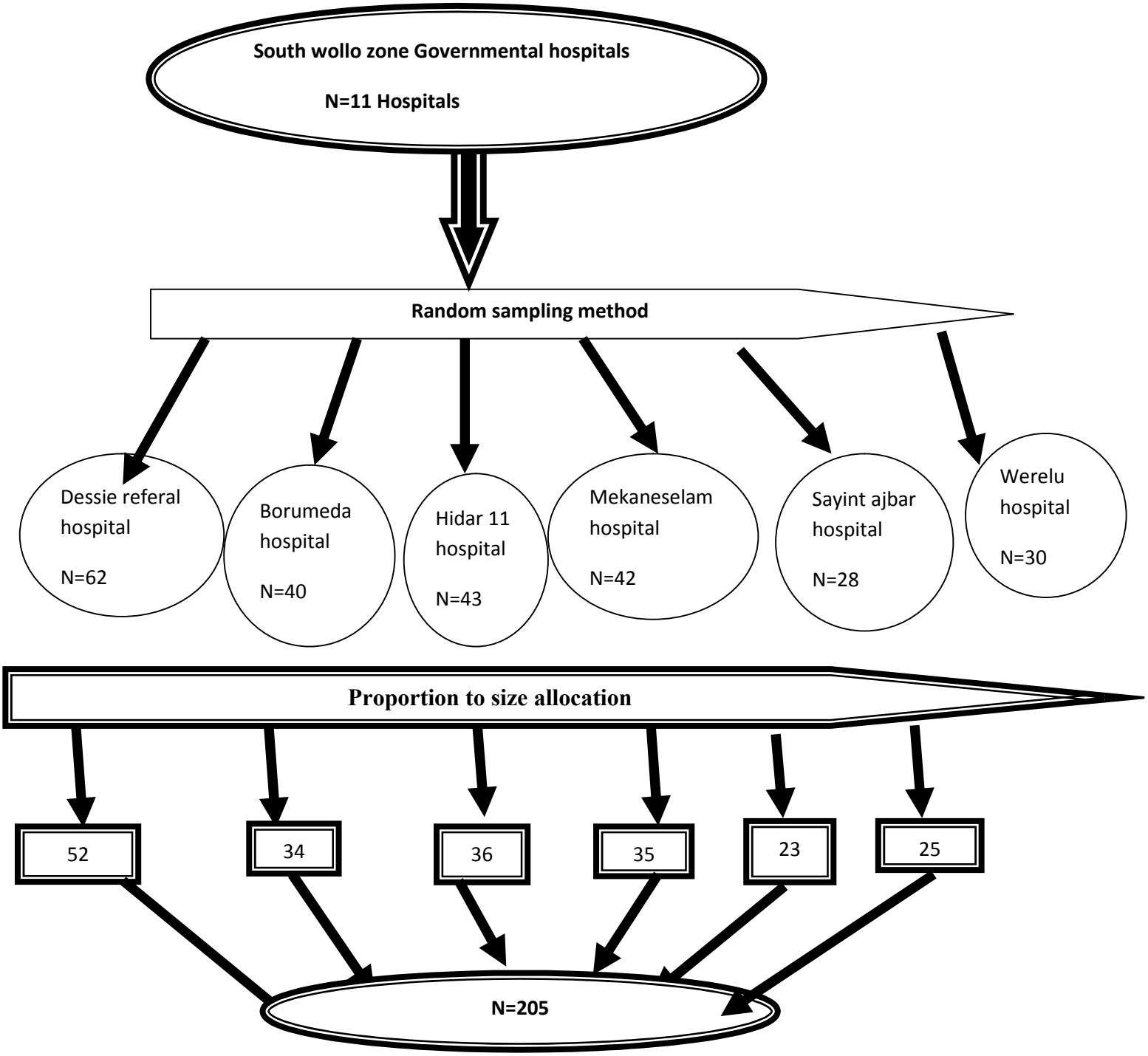


Figure 2: Schematic presentation of sampling procedure, South Wollo, Amhara region, Ethiopia, 2018, (N=205).

4.2.6. Study variables

4.2.6.1. Dependent Variables

Quality PMTCT service

4.2.6.2. Independent variables

Structural elements

Human resources including training, qualification of provider, technical capacity,

Infrastructure related like Space/privacy,

Equipment and supplies

Process elements

HIV counseling and testing

Infant feeding and counseling

Counselors' Communicative skills

Provider satisfaction

Outcome element

Client satisfaction

4.2.7. Operational definition of terms

Mother-to-child transmission: transmission of an HIV virus from a mother to her child through breast feeding, during pregnancy, or during labor.

Client satisfaction: - is defined as the women's self-reported level of satisfaction stated as satisfied or dissatisfied during in-depth interview after getting service.

Waiting time: the time from the client arrived at the health facility through the services until the exit.

Communication: Keeping client informed in language they can understand and listening.

Counseling: is confidential dialogue between a client and a counselor.

Privacy: The state of freedom from interference or public attention while counseling and testing is provided (door closed, etc).

Infant feeding counseling - implies the counseling service provided by health care providers on options available for HIV-positive mothers on how to breast or formula/replacement feed their babies.

Safe obstetric practices : no artificial rupture of membrane to shorten labour, no routine episiotomy, avoid use of vacuum extraction and forceps if possible, limit vaginal examinations during labour, treatment of acute chorioamnionitis, early infant eye and cord care

Process of PMTCT services: indicates activities of health care provider's and client during providing and receiving the services. It encompasses HIV counseling and testing, infant feeding and counseling, provision of basic obstetric care, etc.

Quality PMTCT service: The quality of PMTCT services is measured using structure and process quality measures. To measure quality of PMTCT services using structure and process, ten (10) components are adapted from the standards for quality assessment of HIV/AIDs programs by WHO(43) and from guideline for PMTCT of Ethiopia(30). These component includes: having a health care providers trained in comprehensive PMTCT service delivery(training in HIV testing, ART provision, infant feeding counseling and family planning), availability and use of PMTCT guidelines; Provision of provider initiated HCT as standard package of care at maternal and child health clinics; provision of both pre-test and post-test counseling, provision of PMTCT services to all women attending MCH clinics; provision of infant feeding counseling to all pregnant and breastfeeding women; and appropriate physical infrastructure with both auditory and visual privacy.

Good quality if score above the mean 0f 5.2 using the variables listed above.

Poor quality: quality measure score below the mean of 5.2.

Service time: time taken during service provision with the service providers.

Structure of PMTCT service: indicates facilities to provide PMTCT service.

4.2.8. Data collection tool

The data collection were conducted by using standardized questionnaire from monitoring and evaluating PMTCT Programs by FHI/UNAIDS and UNAIDS best practice collection tool after some modifications had made(44)(45). A standardize check list from UNAIDS Best Practice Collection tools were also used to observe counseling sessions and facility surveys of all institutions selected were also assessed using a minimum requirement for PMTCT program package as per the national PMTCT guideline(30). The data collection were conducted by six trained Bsc nurse as data collector and three Bsc nurses trained on PMTCT as a supervisors who works in PMTCT service at list for one year.

4.2.9. Data Quality Assurance

Training was given both to data collectors and supervisors. The training focus was on obtaining consent, maintaining neutrality, privacy issues, personal relation and ethics in social research. By using 5% of the total sample size calculated for all categories of interviewee, pretest were done at Baunbuawuha Health center and the questionnaire were checked for its clarity, understandability and simplicity in collecting for what it is aimed. After the pretest, the questionnaires were reformatted based on the inputs and comments generated. Then duplication of the final questionnaires was done. The quality of the data collected was assured by checking every questionnaire at the evening of the date of collection by the principal investigator.

4.2.10. Data processing and analysis

Before the analysis all filled questionnaires and checklists were checked for completeness, consistency and accuracy. Then the data were coded and then cleaning and entry were carried out using EPI INFO software. Before analysis, data were cleaned for inconsistencies and missing values. Analysis was done SPSS software version 20. Descriptive statistics (frequency table, pie chart & bar graph) were used to summarize the data. Bivariate logistic regression was used to check variables having association with the dependent variables ($p<0.25$). Multivariant logistic regression was used to control possible cofounders.

4.3. Qualitative part

4.3.1. Study area and setting

At the same area parallel to quantitative part of the study.

4.3.2. Study design and period

Phenomenological research design was conducted. The study period was from February15, to March 15, 2018.

4.3.3. Populations

4.3.3.1. Source population

The source populations of the study were all mothers receiving PMTCT service at governmental hospitals of south Wollo zone, Amhara regional state, Ethiopia

4.3.3.2. Study population

The study populations were all mothers receiving PMTCT service at selected governmental hospitals of South Wollo zone Amhara Regional State during data collection period.

4.3.3.3. Eligibility criteria

Inclusion criteria

All mothers receiving PMTCT service at selected governmental hospitals of South Wollo during data collection period and who are volunteer to participate.

Exclusion criteria

All mothers receiving PMTCT service at selected governmental hospitals of South Wollo during data collection period and who are not able to respond or severely ill.

4.3.4. Size of study subjects (sample size)

The sample size was determined by the saturation of the data which is defined as when the researcher was no longer hearing or seeing new information emerging from the study participant.

4.3.5. Recruitment of Sample

All mothers on PMTCT service were recruited after they have received service from PMTCT unit until the data becomes saturated. Those who are too sick for in-depth interview or to respond were excluded.

4.3.6. Data Collection tool and procedure

Semi structured interview were employed. Participants were aware that participation is completely voluntary and that they may withdraw at any time with no consequences. As well, participants were aware that they may choose not to answer any questions for the interview. During the interview process, the researcher was ensured that participants were comfortable with continuing the interview. With permission, the interview was audio recorded and transcribed. The interview guide was designed beforehand. Interviews were continued until data saturation reached, in which no new information is being provided by participants.

Informed consent forms were completed by all participants. Throughout the interviews, probes were used to offer clarification and encourage elaboration form the participant on specific issues or topics that are domains of interest to the researcher. The audio-recorded interviews were range from 20 to 40 minutes and subsequently, transcribed verbatim to secure accurate participant responses. Typed notes were taken throughout the interviews for the purpose of cross validation with the audio recordings and final interview transcripts.

4.3.7. Data Analysis

Data analysis for the qualitative interviews occurred alongside data collection. Prior to data analysis, all electronic transcripts were transcribed verbatim by the researcher. There was translation from Amharic to English. Throughout data collection, analysis consisted of comparing the data to the literature and participant cases, reflection, and continuous refinement to one on most prominent themes and relationships.

All interviews were first transcribed during the interview and audio recording, then re-listened to and re-read again and again to identify possible meanings and concepts throughout the data collection. The data analyzed by thematic analysis(46). The steps followed were familiarizing with the data through reading and rereading, generating initial codes, searching for themes, reviewing themes, defining themes and lastly writing-up. So the data were coded manually line by line to come up with categories. From these categories, themes and sub themes were developed on client satisfaction with the PMTCT services. The themes and sub themes are reported as study results.

4.3.8. Rigour for qualitative study

Rigour of the study was maintained by using appropriate data collection techniques, and proper sample size determination. The researcher, being main tool for data collection and analysis, were use own expertise and knowledge in analyzing the data for the study. Personal assumptions used to influence data interpretation were acknowledged and disclosed, in order to enhance credibility and validity of the findings of the study results.

4.4. Ethical consideration

This proposal was submitted to AAU school of Allied health sciences department of nursing and midwifery and was approved by institutional review board officials. Ethical clearance was obtained from AAU, department of nursing and midwifery research committee. Letters of cooperation were written to South Wollo Zone Health Bearu and concerned bodies.

After getting cooperativeness from the concerned body at South Wollo Zone Health Bearu, letter was written to request hospital for the applicability of this study.

Health professionals were also asked for their consent in written form. Mothers receiving PMTCT service were asked for informed consent after all the necessary information is presented to them for their willingness to participate in the study.

Following these, collecting and obtaining of the data were processed with assigned person. Finally, strict care for the patient's privacy and no personal identification on data collection & kept confidently.

4.5. Dissemination of the result

Result of the study will be submitted and presented to Addis Ababa University, School of Allied Health Sciences, department of Nursing and Midwifery. The study result will also be submitted to public hospitals at South Wollo Zone and to the Health Bureau. The finding will also be presented in locally or internationally held seminars, workshops, conferences and meetings. For the publication purpose, Presentation on the scientific forum and Publication on the scientific journals will be processed in the future.

5. RESULTS

5.1. General characteristics

Among the sampled 205 health professionals providing PMTCT service from six randomly selected governmental hospitals, 202 of them were assessed using a structured and standardized questionnaire with response rate of 98.54%. Among these, majority of the respondent were midwife which accounts 136(67.33%), and 50(24.8%) were nurses. Regarding their qualification, majorities (72.27%) of them have degree and 17.8% have diploma.

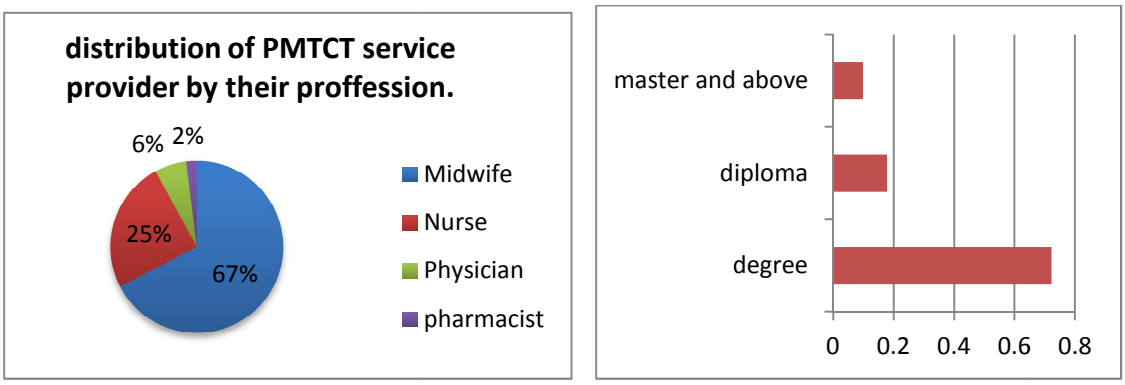


Figure 3.Profession and qualification of health professionals providing PMTCT service at south wollo zone governmental hospitals, 2018(N=202).

Majority of the health professionals providing PMTCT service work in more than one department and 74(36.6%) of them spend more of their time in labor and delivery department, 53(26.2%), 18.3 (37%), 20(9.9%),and 18(8. 9%) of the health workers spend more of their time in ANC, Postnatal, Family planning and ART departments respectively. All (202)of the health professional says that there is a risk of HIIV transmission from mother to child during pregnancy, labor/delivery .And about 199(98.5%) said that this risk can be prevented through seeking ANC care, take medicine, using condom, abstaining from sex and by eating better

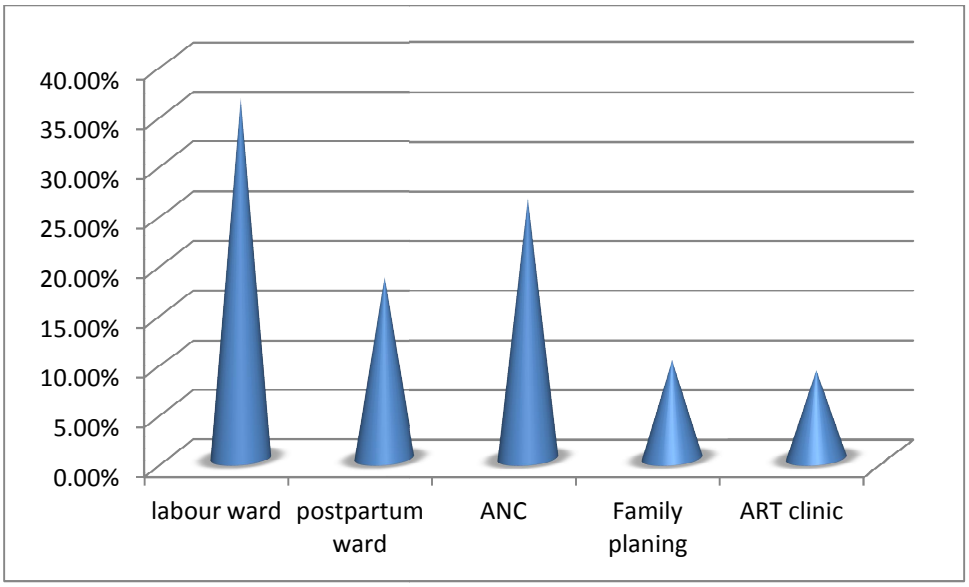


Figure 4: Distribution of PMTCT service provider by their working department, South wollo zone governmental hospitals, 2018(N=202).

5.2. Structural elements available for the provision of quality PMTCT services

5.2.1. Human resources.

Overall, a total of 245 health professionals were distributed at the six randomly selected governmental hospitals for the provision of the PMTCT services. The studied 202 of them were received training in the various areas of PMTCT services provision; 134(66.3%) were trained in HIV testing and 105(52%0 in ANC. About 150(74.3) of the professionals needs training in nutritional counseling, 132(65.3%) needs training in basic counseling and 128(63.4%) needs training infant feeding counseling and support for HIV-positive women as shown in figure below.

Table 1.Trainings taken by health professionals providing PMTCT service and their need for further training south wollo zone, governmental hospitals, March 2018(N=202).

S.No	Basic trainings topic	Received training		Need more training	
		Yes	No	Yes	No
		Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)
1.	Antenatal care	105(52%)	97(48%)	69(34.2%)	133(63.8%)
2.	Child survival/IMCI	60(29.7%)	142(70.3%)	103(51%)	99(49%)
3.	Basic counseling	30(14.9%)	172(85.1)	132(65.3%)	70(34.7%)
4.	VCT for the prevention of mother to-child transmission	85(42.1%)	117(57.9%)	101(50%)	101(50%)
5.	HIV testing	134(66.3%)	68(33.7%)	64(31.7%)	138(68.3%)
6.	Provision of antiretroviral for PMTCT	58(28.7%)	144(71.3%)	102(50.5%)	100(49.5%)
7.	Nutrition counseling	27(13.4%)	175(86.6%)	150(74.3%)	52(25.7%)
8.	Infant feeding counseling and support for HIV-positive women	42(20.8%)	160(79.2%)	128(63.4%)	64(36.6%)
9.	Optimal obstetric practices for HIV-positive women	42(20.8%)	160(79.2%)	112(55.4%)	90(44.6%)
10.	Training in family planning	38(18.8%)	164(82.2%)	112(55.4%)	90(44.6%)
11.	Training on universal precautions	15(7.4%)	187(92.6%)	121(59.9%)	81(40.1%)

5.2.2. Infrastructure for PMTCT service

The number of rooms available for PMTCT service provision was assessed. None of the hospitals have more than one room for the service. About 4(66.66%) of the hospitals had no rooms with visual and auditory privacy for PMTCT service provision as shown in figure below.

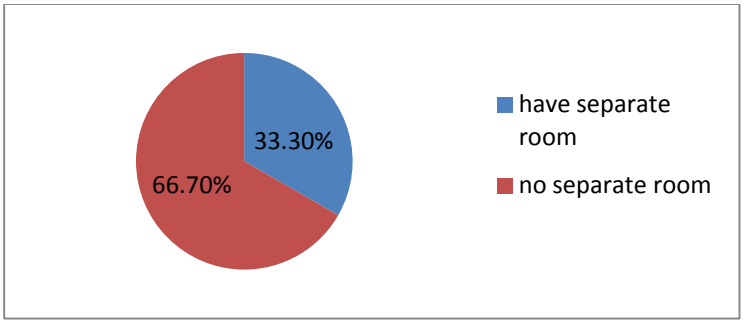


Figure 4: Availability of room with visual and auditory privacy for PMTCT service in governmental hospitals of south wollo zone, 2018(N=6).

5.2.3. PMTCT commodities and supplies

Availability of PMTCT commodities and supplies; 83.33% of hospitals had Neverapine tablet at ANC and neverapine syrup at labour and delivery room. Laboratory supplies like HIV testing kits, confirmatory test kit, tie breaker test kit, test tube, etc were available in all hospitals. Cotrimoxazole was available at 50% of governmental hospitals and PMTCT information, education and communication (IEC) materials at all governmental hospitals as shown below.

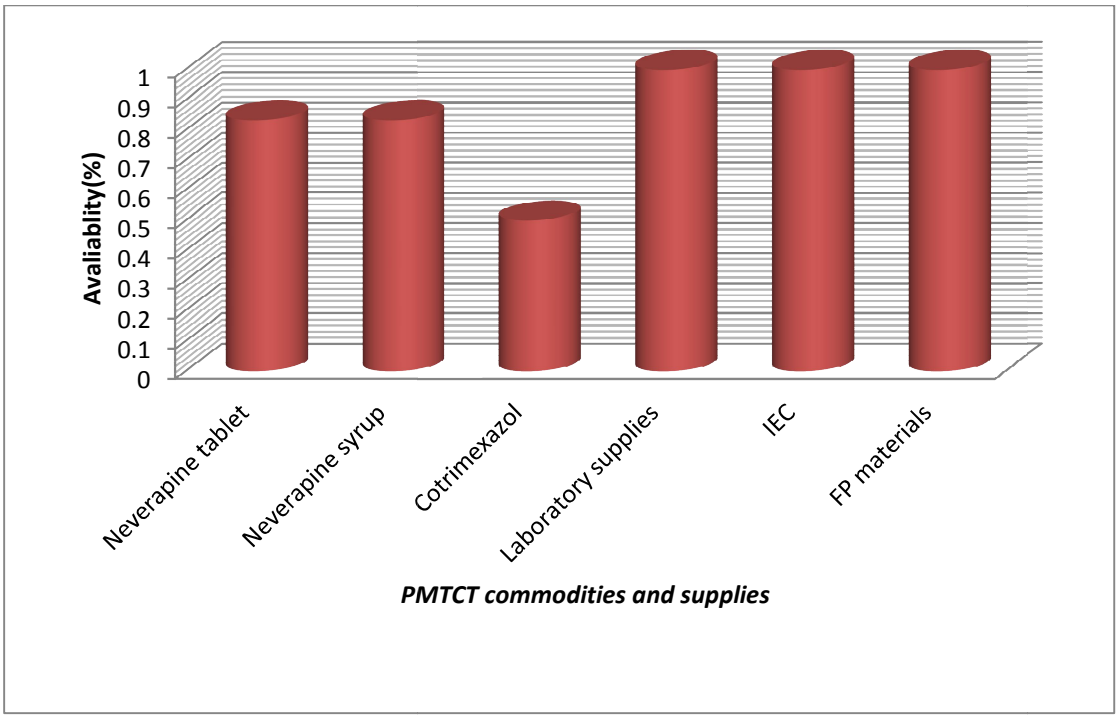


Figure 5: Availability of PMTCT commodities and supplies at south wollo zone governmental hospitals, 2018(N=6).

5.2.4. Basic infection prevention and obstetric care supplies

Basic supplies available for infection control and prevention during provision of PMTCT services such as; goggles, autoclaves, sharp's box, and apron were available at all the health facilities, but gloves were available at only 50% of the hospitals. And basic obstetric care supplies like delivery couch, delivery set and oxytocin were available at all governmental hospitals as shown in figure below.

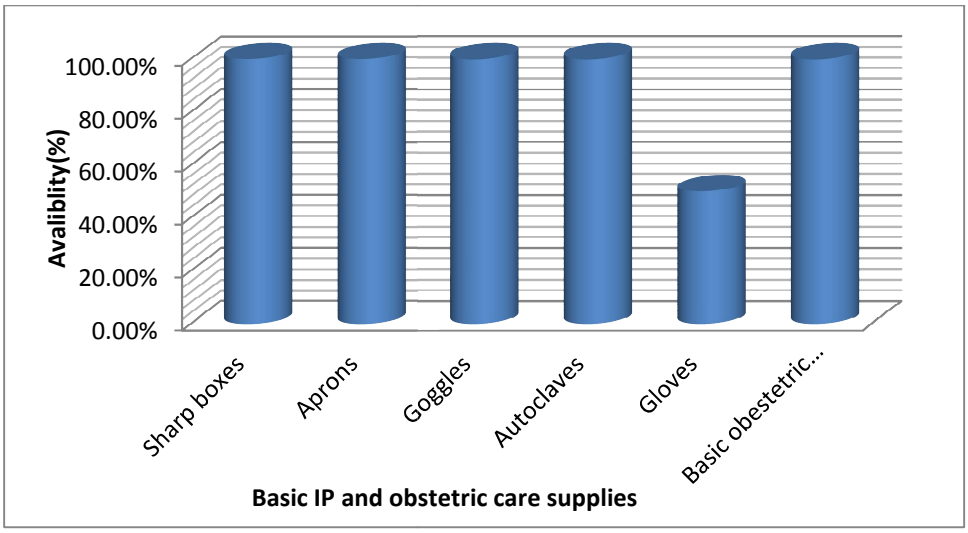


Figure 6: Availability of basic infection control supplies at governmental hospitals of south wollo zone, 2018(N=6).

5.3. Process of PMTCT service provision

5.3.1. Health professional's satisfaction with PMTCT service provision.

Among all respond ants, 190(94.05%) feels that they are able to meet the needs of their clients. lack of training was the major reason for feeling of inadequacy to meet the need of clients. More than half (58.42%) of the respondent feels that their workload has been increased since the introduction of PMTCT service. The most difficult problems encounter in providing PMTCT related services lack of training, lack of feedback on job performance, and inadequate salary which were reported by 76.2%, 73.3%, and 67.8% respectively as shown below.

Table 2: Health professionals satisfaction with PMTCT related service at south wollo zone governmental hospitals, 2018(N=202).

Question	Response	Freq.	Percent (%)
Do you feel you are able to meet the needs of your clients?			
	Yes	190	94.05
	No	12	5.94
If no, why			
	Lack of training	9	
	workload	3	
Has your workload increased since the introduction of the PMTCT service?			
	Yes	118	58.42
	No	84	41.58
Do you feel that you receive support from the hospital administration?			
	Yes, always/usually	46	22.77
	Sometimes	104	51.48
	Not usually/never	52	25.74
What type of incentive(s) do you get for providing PMTCT services?	Increased salary	24	11.88
	Training	118	58.4
	Status	11	5.44
	Nothing	52	25.74
What are the most difficult problems you encounter in performing your job in providing PMTCT-related services			
	Lack of training	154	76.2
	Lack of feedback	148	73.3
	Lack of supervision	127	62.9
	Lack of supplies	136	67.2
	Inadequate salary	137	67.8
	Inadequate facilities	119	58.9

Please indicate how you feel about each of the following statements	Always/often	Occasionaly/never
	Freq(%)	Freq(%)
I feel emotionally drained by my work as a counselor in ANC/MCH services.	74(36.6%)	128(63.4%)
My work is very stressful.	94(46.5%)	108(53.5%)
My work is very rewarding.	127(62.9%)	75(37.1%)
My work environment is very stressful.	96(47.5%)	96(47.5%)
I learn something new in my Work every day	156(77.2%)	46(22.8%)
I feel isolated in my work.	42(20.8%)	160(79.2%)
I have problems communicating with my colleagues.	60(29.7%)	142(70.3%)
I can help my clients.	172(85.1%)	30(14.9%)
I have no confidence in my clinical skills	58(28.7%)	144(71.3%)

5.3.2. PMTCT related services offered by PMTCT service providers

Pretest /post test counseling and HIV testing were provided by about 161(79.9%) and 163(80.7%) professionals at PMTCT services site respectively. ART services for HIV positive pregnant and breastfeeding women were provided by about 149 (73.8%) of professionals at PMTCT service area , ARV prophylaxis for infants were provided by about 147 (72.8%) professionals at PMTCT service area and about 109(54%) of professionals at PMTCT service area offers infant feeding counseling services as shown in figure below.

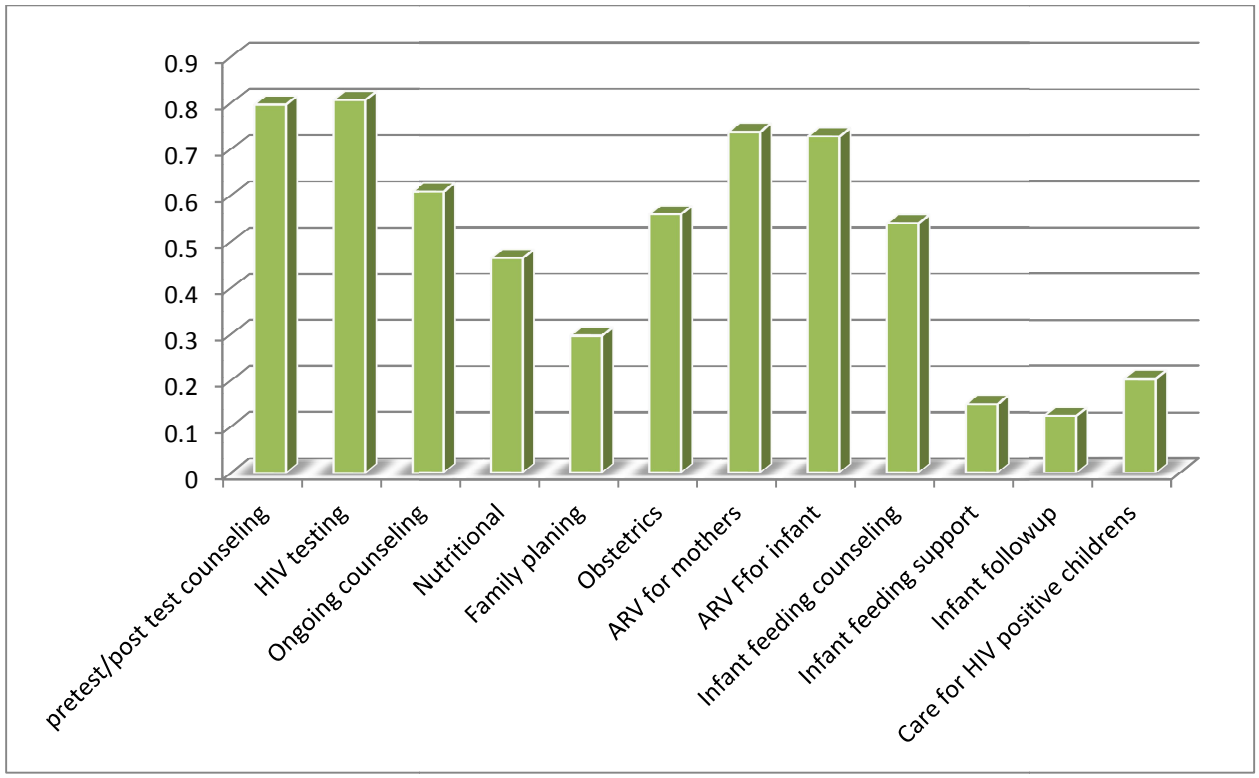


Figure 7: PMTCT related services offered by health professionals at PMTCT service areas of south wollo zone governmental hospitals, 2018(N=202).

5.3.3. HIV counseling service

HIV counseling to prevent MTCT was offered by all professionals at PMTCT service area at ANC/MCH department. About 83(41.1%) of the professionals offers the service for about more than one year, whereas 70(34.7%) of them offers for about 6 month to 1 year as shown in table below.

Table 3: provision of HIV counseling services for PMTCT at south wollo zone governmental hospitals, 2018(N=202).

HCT services for PMTCT		Frequency	Percent
For how long provide HIV Counseling			
	Less than 6 month	49	24.25%
	6 month to 1 year	70	34.65%
	More than 1 year	83	41.08%
Service provision hr per day			
	4 hrs	9	4.45%
	6 hrs	15	7.42%
	8 hrs	178	88.11%
Service provision Days per week			
	5 days/week	200	99%
	4 days/week	2	1%
Average no of client counseled per day			
	< 10 clients	117	57.92%
	10 – 20 clients	56	41.09%
	20 - 30 clients	2	0.99%

5.3.4. Infant feeding counseling services for PMTCT

About 109(53.96%) professionals at PMTCT service area offers infant feeding counseling service. Among these about 95(87.16%) feels adequately prepared to counsel HIV positive women's in infant feeding and the remaining 14(12.84%) doesn't feels adequately prepared to counsel HIV positive women's in infant feeding because of different reasons as shown by the table below.. Among 196(97%) professionals who refer HIV-positive women to services outside their clinic, 94% of them refers to governmental hospitals followed by3.7% private hospitals.

Table 4: Provision of infant feeding counseling services for PMTCT at south wollo zone governmental hospitals, 2018(N=202).

		Frequency	percent
Infant feeding counseling service			
	Yes	109	53.96%
	No	93	46.04%
Do you prepare to counsel HIV positive women prepared			
	yes	95	87.16%
	No	14	12.84%
Reason for not prepared			
	Lack of training	10	71.43%
	Workload	4	28.57%

5.3.5. Provision of basic obstetric care.

Basic obstetrical care was offered by 113(55.94%) of the professionals at PMTCT service area. About 106(93.81%) of them delivers HIV positive women's and 97(85.84%) of them have been instructed on safe obstetric practices for HIV-positive mothers as shown by the table below.

Table 5: Provision of basic obstetric care at south wollo zone governmental hospitals, 2018(N=202).

		Frequency	Percent
Obstetric care provision			
	Yes	113	55.94%
	No	89	44.06%
Delivers HIV positive women			
	Yes	106	93.81%
	No	7	6.19%
Reason for not delivering HIV positive women			
	Couldn't find	5	71.43%
	Fear of infection	2	28.57%
Perform ARMs, episiotomy and vaginal examination			
	Yes	80	70.79%
	No	33	29.20%
Instructed on safe obstetric practice for HIV positive women			
	Yes	97	85.84%
	No	16	14.16%

5.3.6. Observation for Counselors' Communicative Skills with the Mothers

In almost all cases, the counselors used a language that the mothers understood. In 28 (46.7%) and 25(41.7%) of the observations, the counselors greeted and introduced themselves to the clients at the beginning of the sessions. In 50 (83.3%) of the sessions, the mothers were actively and supportively listened/attended to. During gathering information from the mothers, the

counselors used closed and open ended questions as appropriate in 54(90%) of the sessions, in 53(88.3%) of sessions uses silence well to allow for self-expression and in 40 (66.7%) of the sessions information gathered was summarized/repeated at the end.

Regarding giving information, in 56 (93.3%) of the sessions, the counselors gave clear and simple information to the clients, in 55 (91.7%) of the sessions, the counselees were given time to think and an opportunity to ask for unclear issues. In 47 (87.3%) of the sessions, misunderstandings or incorrect beliefs of the clients were assessed and corrected; and information given was appropriately summarized at the end of the discussion only in 34 (56%) of the sessions.

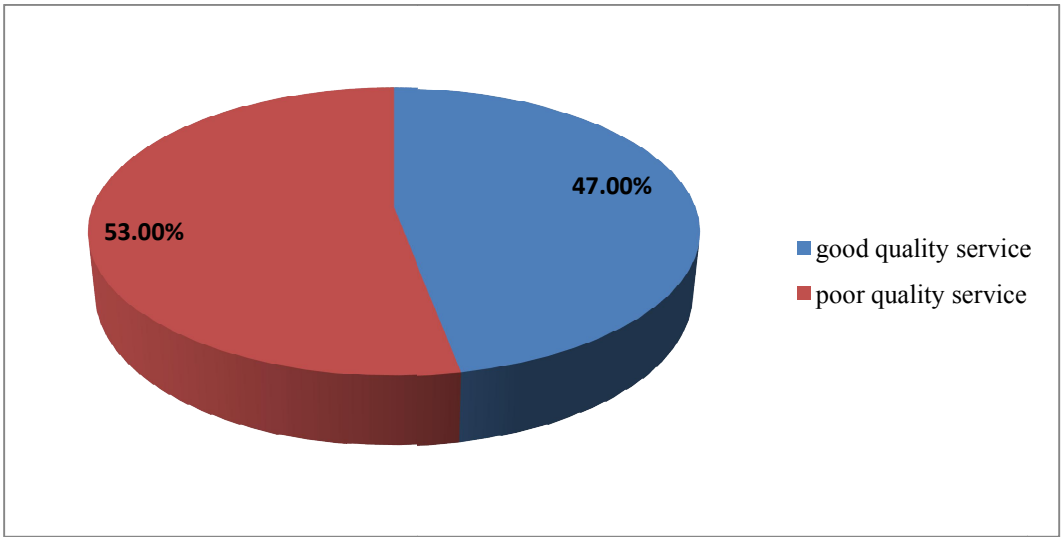
Table 6: Counselors' Communicative skills at south wollo zone governmental hospitals, 2018, (N=60 sessions).

Function	Skill	Yes		No	
		Freq.	Percent	Freq.	Percent
Interpersonal relationship	Greets clients	28	46.7	32	53.3
	Introduces self	25	41.7	35	58.3
	Listens actively (both verbally and non-verbally)	50	83.3	10	16.7
Gathering information	Uses appropriate balance of open and closed questions	54	90	6	10
	Uses silence well to allow for self-expression	53	88.3	7	11.7
	Avoids premature conclusions	50	83.3	10	16.7
	Summarizes main issues discussed	40	66.7	20	33.3
Providing information	Gives information in clear and simple terms	56	93.3	4	6.7
	Gives client time to absorb information and to respond	55	91.7	5	8.3
	Checks for understanding/misunderstanding	47	78.3	13	21.7
	Summarizes main issues	34	56.7	26	43.3
Handling special circumstances	Accommodates language difficulty	52	86.7	8	13.3
	Prioritizes issues to cope with limited time in short contacts	57	95	3	5
	Manages client's distress	55	91.7	5	8.3
	Flexible in involving partner or significant other	49	81.7	11	18.3

5.4. Quality of PMTCT services at government hospitals of south wollo zone.

The overall quality of PMTCT services at government hospitals where the study was conducted was poor(x=47%) with mean 0f 5.4 and standard deviation of 1.494.

Figure 8:quality of PMTCT service at government hospitals of south wollo zone, 2018.



Variables having association with quality of PMTCT service

Bi-variate logistic regression was used among different variables to determine the set of predictor variables for quality of services on PMTCT. The variables showing associate were training in comprehensive PMTCT service delivery(training in HIV testing, ART provision, infant feeding counseling and family planning), availability PMTCT guidelines; provision of provider initiated HCT, provision of both pre-test and post-test counseling, provision of PMTCT services to all women attending MCH clinics, provision of infant feeding counseling to all pregnant and breastfeeding women, and appropriate physical infrastructure with both auditory and visual privacy had association with quality service on PMTCT in bivariate logistic regression analysis ($p< 0.25$).

All variables that have association with the outcome variables in bivariate logistic regression analyses were included in the multiple logistic regression models. After controlling for the

effects of potentially confounding variables using multiple logistic regression; training in infant feeding counseling ,training in family planning, lack of PMTCT guidelines; provision of infant feeding counseling to all pregnant and breastfeeding women; and appropriate physical infrastructure with both auditory and visual privacy remained significantly associated with quality of service on PMTCT($p< 0.05$).

Those PMTCT service professionals who have training in infant feeding counseling were 6.4 times [AOR=6.422; 95% CI: (2.273, 18.144)] more likely able to provide quality PMTCT services than those who have lack of training. Similarly Those PMTCT service professionals who have training in family planning were 3.8 times [AOR=3.825; 95% CI: (1.438, 10.172)] more likely able to provide quality PMTCT services than those who have lack of training. And those PMTCT service professionals who provides infant feeding counseling were 4.6 times [AOR=4.620; 95% CI: (2.226, 9.609)] more likely able to offer quality PMTCT services than those who didn't provide the service.

Additionally, PMTCT professionals who had lack of PMTCT guideline in their working area were 61.9% [AOR= 0.381; 95% CI: (0.170, 0.857) less likely able to offer quality PMTCT services compared to those who have PMTCT guideline in their working area. Finally, those professionals having separated room with auditory visual privacy in their working area were 3 times more likely offer quality service on PMTCT compared to others [AOR=3.076; 95% CI: (1.273, 7.431) .

Table 7: Variables having association with quality PMTCT service at South Wollo zone governmental hospitals, 2018(N=202).

Variable		Poor quality	Good quality	Logistic regression (95% CI)	
		Freq.(%)	Freq.(%)	COR (p < 0.25)	AOR (p < 0.05)
Training in HIT testing					
	Yes	56(41.8%)	78(58.2%)	4.179(2.187,7.984)*	1.922(0.925,3.881)
	No	51(75.0%)	17(25.0%)	1	1
Training in Provision of ART					
	Yes	18(31.0%)	40(69.0%)	3.596(1.877,6.888)*	2.028(0.925,4.448)
	No	8961.8%	55(38.2%)	1	1
Training Infant feeding counselling					
	Yes	6(14.3%)	36(85.7%)	10.771(4.085,25.825)*	**6.422(2.273,18.144)****
	No	101(63.1%)	59(36.9%)	1	1
Training in FP					
	Yes	102(6.3%)	28(73.7%)	4.054(1.847,8.899)*	**3.825(1.438,10.172)****
	No	97(59.1%)	67(40.9%)	1	1
Provision of Pre-test /post-test counselling					
	Yes	72(44.7%)	89(55.3%)	7.211(2.873,18.095)*	1.975(0.709,5.503)
	No	35(85.4%)	61(4.6%)	1	
Provision of HIV testing					
	Yes	77(47.2%)	86(52.8%)	3.723 (1.663,8.334)*	0.614(0.236,1.599)
	No	30(76.9%)	92(3.1%)	1	1
Provision of Infant feeding counselling					
	Yes	35(32.1%)	74(67.9%)	7.249 (3.858,13.622)*	**4.625(2.226,9.609)****
	No	72(77.4%)	21(22.6%)	1	1
HIV counselling to all women's					
	Yes	86(48.9%)	90(51.1%)	4.395 (1.586,12.178)*	0.460(0.141,1.495)
	No	21(80.8%)	51(9.2%)	1	1
separate room for PMTCT service					
	Yes	16(35.6%	29(64.4%)	2.499 (1.256,4.971)*	**3.076(1.276,7.431)****
	No	91(58.0%)	66(42.0%)	1	1
Lack o PMTCT guideline					
	Yes	81(48.5%)	86(51.5%)	3.067(1.356,6.940)*	**0.381(0.170,0.857)****
	No	26(74.3%)	9(25.7%)	1	1

*p <= 0.25, CI- 95 %(Confidence Interval), COD- crude odds ratio, AOD-adjusted odds ratio

** Remained statistically significant (p <=0.05) in both crude and adjusted odds ratio.

5.5. Client satisfaction with PMTCT service

5.5.1. Socio-demographic characteristics

In-depth interviews of clients at service delivery outlet were carried to assess their degree of satisfaction with PMTCT service. A total of 16 mothers who were interviewed, half were in the age group 31 -40 and the mean age and standard deviation of clients were 29.81years and 4.46 years respectively. More than half respondents were married. As to religion of the respondents, more than half of them (10) were Muslim, 5 were orthodox. Regarding educational status of clients, 7 of the respondents were grade 1-4.From the total respondents, half of them were housewives, followed by merchants and daily laborer which accounted for 4 and 3 respectively as shown below.

Table 8: Socio-demographic features of women who came for PMTCT services; South wollo zone, 2018.

Variable		Frequency
Age in years		
	15-20	1
	21-25	2
	26-30	5
	31-40	8
Religion		
	Orthodox	5
	Muslim	10
	Protestant	1
Marital status		
	Married	9
	Divorced	4
	Widowed	2
	Separated	1
Educational status		
	Illiterate	1
	Illiterate but able to read and write	3
	Grade 1-4	7
	Grade 5-8	3
	Grade 9-12	2
Occupation		
	Housewife	8
	Merchant	4
	Government employ	1
	Daily laborer	3

To assess client satisfaction with PMTCT service, in-depth interview was conducted for about 16 mothers after they have got the PMTCT service. Overall majority of the respondents were satisfied with PMTCT service they receive.

Analysis of client satisfaction with PMTCT services provided revealed six distinct issues: awareness on PMTCT, advantages of being enrolled in to the service, satisfaction with waiting and service time, satisfaction with room comfort and privacy issue, satisfaction with the health providers and challenges encountered while using the service.

5.5.2. Understanding of mothers about PMTCT

The in-depth interviews revealed that all the respondents in the study have awareness on PMTCT. They were all knowledgeable about the PMTCT program and they all participated in the program. They have a positive feeling towards the service. One mother states her awareness about the service in the following way:

> "*My awareness on the service is that by taking the recommended drugs and by performing the advices provided during counseling session, the transmission of HIV from me to my child can be prevented. They provide a nice advice, even though the decision to perform or not to perform what we counseled remains on our self. That means, there may be a person who is counseled well but doesn't practice it. This will increase disease distribution and mainly children's will be affected."*

Another mother's state:

"As far as my ability and capacity concern, I acquire different information from health providers and even from mother those who come for the service. From the service and the education I get, I know that it is possible to prevent HIV transmission from me to my child and I had practiced it. As it is said seeing is believing, there are many individuals using the service and getting good result, means having a child of free from the virus. I am the one who gets the service and having a child of 5 yrs, she is free from the virus. I am so happy with this."

5.5.3. Advantages of being enrolled in the service

Almost all the respondents said PMTCT service was very important. However, they had different views of why they felt so. Most of them said that being counseled on the ways of prevention of HIV transmission from mother to child able to prevent their child from acquiring the virus. One mother explains this issue as the following:

> *"Nothing is more than life; I have saved my child life. I am successful in my life, my health status is also improved and I have a change all over my life. I was in stressed on the issue of getting a free child from me with the virus. Even I beg my GOD to give me a child free of the virus. Not only has this I practice any preventive measured what I have got from health care providers. Thanks to GOD and the service providers*, especially at labour ward, I had got a child of free from the virus. He is 3yrs old."

The other says the service makes them to improve their health so as to live long live and to prevent the disease epidemics .one mother stats this concern as the following:

"I perceive that if I was not using this service, I will not live anymore. Based on the advice from the providers, I give great value to my health, I take drugs on time. I keep my safety. I eat as much as I have. I am a 7 month pregnant; I am interested to do what I can to make my child free of the virus. This will able to have a virus free generation in the future. This is the result of being enrolled to the service, everyone should come there not only for owns health situation, by thinking future generation. It is better to end."

5.5.4. Satisfaction with waiting and service time

Time spent on waiting and discussion with ANC/PMTCT counselor/provider was assessed. The respondent states time intake issue in different ways. They complain that the time intake is affected by different issues like number of room, number of client, health status of client, counselor related issues (number, skill, etc), etc. Most of the mother complains that they had spend more time while waiting the for the service than when getting the service. One mother states this issue as the following:

"*The waiting time depends on many things like number of clients, issue with the client, providers' knowledge and interest for care and counseling, and other issues. But as I encounter, more time is spent on waiting to get the providers than for getting the care/service. What matters here is that, if I have many questions to ask/discuss with providers, it may need more time to spend with provider, unless I can get the service soon. Generally I have no any complain with the time intake because whatever time it takes, I am coming with goal/mission of improving my health."*

Another mother states that…

"It doesn't take any more time as compared to the aim of coming to the health facility. The time taken depends on the number of clients coming for this service. But i think the main thing that causes increased waiting time is having only one room at the area where service is provided. This makes as to wait until we are called sequentially."

5.5.5. Satisfaction with counseling room.

Counseling for PMTCT appeared to be a strict private issue which could not be done in the open. Majority of the respondent weren't satisfied with the room where PMTCT service is offered. They view their satisfaction in different circumstances. Most of them weren't satisfy with counseling room comfort and privacy. One mother describes this issue as follows:

> "*Yes I am satisfied with the service but it doesn't mean the satisfaction is in every aspect of the service. Especially the visual and auditory privacy with the room is in question. In the same room at least three clients are counseled at ANC room of our facility. I am not happy with this because it makes me to hide information from the counselor due fear of the other provider and other client even I may try to tell by reducing my sound. The other thing is good. I am satisfied with waiting time, confidentiality, knowledge and competency of the service provider."*

Some respondents satisfy with all aspect of the service. They satisfy with the counseling room privacy, competency of the provider, waiting time, counseling room comfort, etc. one mother states her satisfaction level as the following:

> *"It is difficult to talk about full satisfaction with health service. But to some extent even though there is no measurement to quantify my satisfaction level, I am happy with counselors' skill, explanation, their respect and waiting time also. The counselors are friendly and respective. I don't fear them to disclose what I feel. But the room doesn't maintain visual and auditory privacy. I am not comfortable with counseling room."*

5.5.6. Satisfaction with the health providers.

The in-depth interview revealed that all respondents were satisfied with PMTCT service providers. They were happy with providers' competency, explanation of different issues, greeting when client entered, respect, etc. One mother narrates this issue as follows:

"There is no measurement to quantify my satisfaction level, I am happy with counselors' skill, explanation, their respect and waiting time also. The counselors are friendly and respective. I don't fear them to disclose what I feel…"

5.5.7. Challenges that a mother faces while using the PMTCT service.

The result shows that, more than half of the respondents complain with shortage of cotrimexazole. They are ordered to buy from private pharmacy with high cost and they are disappointed with this. One mother explains this issue as follows:

> "*There were no more challenges previously. But now there is no drug "bacterium". I don't know why. I bought from private pharmacy with high cost. It was free if it was found in this facility. It makes to lend money from others unexpectedly to prevent dose lose for my child if I wait until I get money by myself. So it is better if it was available at the facility."*

Another mother states that:

> *"There is a problem related to drug. There is shortage of bacterium and we bought it from private pharmacy with high price, it was free when we get from this facility. This makes economical wastage. And the other thing personnel's at card room are not ethical. They didn't understand for what service I come when I tell for them. They send my card to OPD always. I am angry with it. Due to this I can't get the service on time. "*

6. DISCUSSION

This study aimed to assess quality of service on PMTCT at south Wollo zone governmental hospitals. The overall result of this study showed that the quality of PMTCT service offered was poor (47%). This result is relatively lower than with the study done in Uganda (68%), and Kenya (86.7%)(28),(27). This discrepancy might be related with evaluating criteria for quality service and socio demographic variation. The following factors: training in infant feeding counseling ,training in family planning, lack of PMTCT guidelines; provision of infant feeding counseling to all pregnant and breastfeeding women; and appropriate physical infrastructure with both auditory and visual significantly associated with quality of service on PMTCT of HIV.

6.1. Structural elements available for the provision of quality PMTCT services.

At the government hospitals assessed, the health workers available to provide PMTCT services to pregnant and breastfeeding women were mainly midwives and nurses(67%and 25%).This is higher than the study conducted in Uganda(28). The 202 health workers available at different hospitals to provide PMTCT services received training in the various areas of PMTCT services provision; 66.3% were trained in HIV counseling, which is lower than the study in Uganda where 88.2% were trained in HIV testing(28). But it is in line with the study conducted in Adama where 66.5% of the professionals were trained in HIV counseling.(39).

Training in infant feeding counseling is significantly associated quality of PMTCT service (P=0.00). Those PMTCT service This means that the health workers providing PMTCT services when receiving training thus increases the confidence of the pregnant women and breastfeeding mothers on the health workers. This association may be because providers who are trained in infant feeding counseling offers a quality PMTCT service. If the counselors are trained in service provision they update themselves and provide according to the recommendation by national the guideline, thus will improve quality of service. This finding is also in line with the MOH guidelines that recommend mothers known to be infected with HIV and whose infants are HIV uninfected or of unknown HIV status to exclusively breastfeed their infants for the first 6 months of life with immediate cessation (30).

Training in family planning is significantly associated quality of PMTCT service (P=0.007). Those PMTCT service professionals who are trained in family planning offers a quality PMTCT service. This association may be because if they are trained in PMTCT related service provision ,they integrates PMTCT service and family planning service, which is recommended by FMOH national guideline for family planning services in Ethiopia(47) ,they update themselves and provide according to the recommendation by national the guideline for PMTCT, thus will improve quality of service.

In this study availability of PMTCT service guideline was significantly associated with the quality of PMTCT service (P=0.013). Those health professionals with PMTCT service guideline were more likely to provide quality PMTCT service. This significant association might because of the consistent and adequate availably of the guideline at the area PMTCT service area able to provide quality health services. It can change provider behavior towards services delivery as it is recommended in the guideline. In addition, it can contribute to a reduced workload for already stressed healthcare staff as patients require additional visits or referrals to access recommended services.

In this study availability of room with auditory and visual privacy was significantly associated with the quality of PMTCT service (p=0.02). Those PMTCT service professionals having room with auditory and visual privacy in their working area were more likely to provide quality PMTCT service. This indicates that lack of separated room makes difficult for health workers to ensure ethical requirements of confidentiality, informed counseling, quality counseling and privacy during provision of PMTCT services at the health facilities leading to loss of trust by the clients on services providers and failure of the clients to open up their history to the health workers, which in turns affects diagnosis and treatment. As noted from qualitative study from PMTCT "*the visual and auditory privacy with the room is in question. In the same room at least three clients are counseled at ANC room of our facility. I am not happy with this because it makes me to hide information from the counselor due fear of the other provider and other client even I may try to tell by reducing my sound*". This is congruent with the study conducted in Uganda which shows space available for provision of PMTCT services at the health facilities assessed was not adequate and lacked privacy(28). It is also in line with the study conducted in

Kafa where there was no separate counseling room for PMTCT services provision in the hospital(34).

6.2. Process elements available for the provision of quality PMTCT services

Major components of process elements available for the provision of quality PMTCT care were assessed. During the study it was noted that, HIV counseling to prevent MTCT was offered by all professionals at PMTCT service area at ANC/MCH department. This finding in line with what is recommended in MOH guideline which recommend provision HIV counseling to all women at ANC/MCH department(30). That means provision of HIV counseling to all women able to tackle transmission to children's so as to reduce MTCT through using of different PMTCT related services.

More than half (58.42%) of the respondent feels that their workload has been increased since the introduction of PMTCT service.tis is lower than the study conducted in Adama (71%)(39). this discrepancy may be commitment of professionals to provide the service by accommodating difficulties. The most difficult problems encounter in providing PMTCT related services lack of training, lack of feedback on job performance, and inadequate salary which were reported by 76.2%, 73.3%, and 67.8% respectively which in line with study in Adama(39).

The study shows that provision of infant feeding counseling significantly associate with the quality of PMTCT service (P=0.000). Those who provide counseling service about infant feeding offers quality PMTCT service. This finding is in line with the MOH guidelines that recommend mothers known to be infected with HIV and whose infants are HIV uninfected or of unknown HIV status to exclusively breastfeed their infants for the first 6 months of life with immediate cessation and pregnant and breastfeeding women known to be HIV infected to be informed of the infant feeding practices recommended by the national authority to improve HIV free survival of HIV exposed infants and the health of the HIV infected mothers(37). This is also consistent with what is recommended in the national guideline.

6.3. Client satisfaction with PMTCT service

In this study, majority of the respondents were satisfied by the PMTCT service they had got. This is relatively higher than the study done in Adama which was 74.4%(36) and in Wolita zone 71.4%(48), but slightly lower than the study conducted in Kafa zone which was 90%(34). This variation may be due to methodology, sample size and demographic related factors.

7. LIMITATION AND STRENGTH OF THE STUDY

Strength

Use of qualitative and quantitative approaches which involved clients, health providers, and the facilities.

Limitation

Difficult to discuss with other related researches because none of them shows associated factors with quality PMTCT service and their significance.

No software is used to analyze the qualitative data.

8. CONCLUSION AND RECOMMENDATION

8.1. Conclusion

PMTCT services were mainly provided by midwives and nurse in PMTCT and Space used for providing PMTCT services lacked adequate privacy, both visual and auditory privacy. PMTCT commodities and infection control supplies were readily available at the hospitals studied. Generally the quality of PMTCT services provided to pregnant and breastfeeding women and their infants at the hospitals studied was poor; however, the most clients were satisfied with the PMTCT service provided at these hospitals.

8.2. Recommendation

From the study results, the following recommendations are drawn so as to improve the quality of PMTCT services provided to pregnant and breastfeeding women and their infants at the government hospitals of south wollo zone.

For south wollo zone health bureau

- Improve the supply chain management from the national medical stores (NMS) to ensure that the recommended PMTCT commodities and basic infection control supplies are available at all the health facilities providing PMTCT services especially for infants.

For south wollo zone hospitals and professionals delivering PMTCT service

- Ensure availability and consistent use of the latest MOH PMTCT guidelines and standard operating procedures (SOPs) at all the health facilities providing PMTCT service.
- Improve the condition of infrastructure at the hospitals to assurance adequate space to offer both visual and auditory privacy during provision of PMTCT services.
- To give quality and comprehensive PMTCT interventions by reducing clients' waiting time as much as possible.

For researchers

- Further research should be conducted to assess the quality of PMTCT services at both the government and private health facilities.

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ANNEXES

Annex I: Information & consent form

1. Information sheet for PMTCT service providers.

Dear respondent my name is _____. I am here to collect data for a study which entitled with "the quality of service on prevention of mother to child transmission of HIV at South wollo zone governmental hospitals Amhara region, Ethiopia, 2018." It is conducted by me, Debrnesh Goshiye. I am MSc pediatric health nursing student at Addis Ababa University, College of Medicine And Health Sciences, Department of Nursing & Midwifery.

The aim of this study is to assess the quality of service on prevention of mother to child transmission of HIV at South wollo zone governmental hospitals. You are being asked to take part in this study and to respond genuinely. This questionnaire focuses on assessing your provision PMTCT related services. A standard observational check to assess your counseling skill will be also used. Your cooperation and willingness is greatly helpful in identifying problems related to service of PMTCT that you provide and to proposing solutions. Your name will not be written in this form and will never be used in connection with any information you provide. This questionnaire may take 20 to 30 minutes to complete.

There is no possible risk associated with participating in this study except the time spent for completing the questionnaire. All information given by you will be kept strictly confidential. Your participation is voluntary and you are not obligated to answer any question you do not wish to answer. If you feel discomfort with any of the questions, it is your right to drop it any time you want. If you have questions regarding this study or would like to be informed of the results after its completion, please feel free to contact the principal investigator.

Address of the principal investigator:

Debrnesh Goshiye Miretu

Tel: +251-937558537

E-mail: debrye85@gmail.com

2. Consent form

Consent sheet

I_____ heard all information above about the purpose of study, confidentiality, risks & time taken for the interview in this study. I am knowledgeable about all aspect of this study.

If you ever have questions about this study, you should contact the Principal investigator, **Debrnesh Goshiye,** mobile number. +251937558537 or Email- debrye85@gmail.com

Agreement of the Participant: Do you agree? A. Yes B. No

If yes continue or if no give thanks & proceed to other participant

Name of data collectors _____date_____

ANNEX II. QUESTIONNAIRES

Questionnaires I

Questionnaire for PMTCT service providers in South Wollo Zone Public Hospitals, 2018.

Name of the health institution: _____

Interview date : _____

Name of the interviewer:_____ Code_____

	Questions	**Responses – Codes**	**Skip patterns**
001	What is your profession?	Physician.....……..1 Health officer……..2 Nurse.....……3 Midwife .....……4 Pharmacist ……..5 Other (please specify) .....……..88	
002	Qualification	Diploma ……..1 Degree……2 Master and above……3	
003	In which departments do you work?	ANC .....1 Labor room.....……2 Post natal……..3 Family planning .....…….4 ART clinic……5 Other Specify)_____88	
004	If more than one department, in which department do you spend most of your time?	ANC .....1 Labor room.....……2 Post natal……..3 Family planning .....…….4 ART clinic……5 Other Specify)_____88	

005	When can HIV be passed from a mother to her child?	During pregnancy……..1 During delivery…….……..…...2 Through breastfeeding……..…….3 Don't know……..……..4 Other(specify) _____ 88			
006	What can women do to reduce the risk of HIV transmission during pregnancy? CIRCLE ALL THAT APPLY.	Take medicine ……1 Use condom ……...2 Abstain from sex……3 Eat better……4 Seek antenatal care ……..……..5 Nothing……..……6 Other (specify) _____ ……88			
007	Have you received any training in the following areas?	Training areas	Yes	No	
		1. Antenatal care	1	2	
		2. Child survival/IMCI	1	2	
		3. Basic counseling	1	2	
		4. VCT for the prevention of mother to-child transmission VCT for PMTCT)	1	2	
		5. HIV testing	1	2	
		6. Provision of antiretrovirals for PMTCT (i.e., provision of NVP or AZT)?	1	2	
		7. Nutrition counseling	1	2	
		8. Infant feeding counseling and support for HIV-positive women	1	2	
		9. Optimal obstetric practices for HIV-positive women (i.e.,avoidance of ARMs, episiotomies?)	1	2	
		10. Training in family planning	1	2	
		11. Training on universal precautions	1	2	
008	Are there any areas in which	1. Yes ..……1			

	you have not been trained where you feel you need more training?	2. No…..…….2	
009	If your answer to the above question is "Yes", what are the areas? CIRCLE ALL THAT APPLY	1. Antenatal care……..…..…….....1 2. Child survival/IMCI…….……..2 3. Basic counseling…….…….……...3 4. VCT for the prevention of mother-to-child transmission VCT for PMTCT)…….…….....4 5. HIV testing……...……..5 6. Provision of antiretrovirals for PMTCT (i.e. provision of NVP or AZT)?.....6 7. Nutrition counseling…….....……7 8. Infant feeding counseling and support for HIV-positive women ……..8 9. Optimal obstetric practices for HIV-positive women (i.e.,avoidance of ARMs,episiotomies?)…….9 10. Training in family planning service provision……..10 11.Training on universal precautions……..11	
010	Are you directly involved in PMTCT intervention?	Yes……..1 No ……2	
011	Which of the following PMTCT-related services/topics do you provide ?	Yes No Pre-test/post-test counseling .....1.....2 HIV testing .....1.....2 Ongoing counseling ..... 1.....2 Nutrition counseling..... 1.....2 Family planning ..... 1.....2 Obstetrics.....1.....2 ARV for mother..... 1.....2 ARV for infant ..... 1.....2 Infant feeding counseling ..... 1.....2	

		Infant feeding support .....1.....2 Infant follow-up ..... 1.....2 Care for HIV-positive children..... 1.....2	
012	For how long have you been providing PMTCT services?	Less than 6 months……1 6 months to one year……..2 More than 1 year……..…….3	
HIV COUNSELING (including infant feeding, pre- & post-test counseling, nutrition counseling, ongoing counseling).			
013	For how long have you been doing HIV counseling for MTCT? (NOTE: HIV counseling for MTCT includes for pregnant women)	Less than 6 months……1 6 months to one year……..2 More than 1 year……..…….3	
014	How many **hours per day** do you do HIV counseling for MTCT?		
015	How many **days per week** do you do HIV counseling for MTCT?		
016	On average, how many clients do you see per day?		
017	Do you provide any ongoing counseling to HIV-negative women		
Infant feeding counseling			
018	Do you prepared to counsel HIV-positive women in infant feeding?	Yes……..1 No……2	
019	If no, why not?		
020	Do you refer HIV-positive women to services outside your clinic?	Yes……1 No……..2	If "2" skip to 023

021	Where do you refer those women?	1. Government hospital……..…….1 2. Government health center……..…….2 3. Private hospital…….……..……3 4. Private higher clinic……4 5. NGOs……..5 6. PLWHA associations…….6 7. Other…….……..…….88	
022	How many clients do you see within a day?		
OBSTETRICS FILTER: for health professionals providing obstetric care.			
023	Do you deliver HIV-positive women?	Yes…….1 No ……..2	
024	Why not?		
025	Do you perform ARMs, episiotomies, and vaginal examination?	Yes…….1 No ……..2	
026	Have you been instructed on safe obstetric practices for HIV-positive women?	Yes…….…….1 No ……..2	
PROVIDER SATISFACTION			
027	Do you feel you are able to meet the needs of your clients?	Yes…….1 No……..2	
028	If not, explain		
029	Has your workload increased since the introduction of the PMTCT service?	Yes…….1 No ……..2	
030	Do you feel that you receive support from the hospital administration?	Yes, always/usually…….…….1 Sometimes……2 Not usually/never…….3	
031	What type of incentive(s) do you get	Increased salary……..1	

	for providing PMTCT services?	Training…….……2 Status……..……3 Nothing……..……4 Other (specify)……. ……88				
032	What are the most difficult problems you encounter in performing your job in providing PMTCT-related services? CIRCLE ALL MENTIONED.		Yes	No		
		Lack of supervision	1	2		
		Lack of feedback on job performance	1	2		
		Lack of training	1	2		
		Lack of supplies and/or stock	1	2		
		Inadequate facilities	1	2		
		Staff shortages	1	2		
		Too many patients	1	2		
		Poor working environment	1	2		
		Demoralized staff	1	2		
		Lack of time to do job	1	2		
		People don't use facility	1	2		
		Inadequate transport for patients	1	2		
		Inadequate salary	1	2		
		Security	1	2		
032	**Please indicate how you feel about each of the following statements**	**Always**	**Often**	**Occasionally**	**Never**	
	I feel emotionally drained by my work as a counselor in ANC/MCH services.	1	2	3	4	
	My work is very stressful.	1	2	3	4	
	My work is very rewarding.	1	2	3	4	
	My work environment is very stressful.	1	2	3	4	

	I learn something new in my Work every day	1	2	3	4	
	I feel isolated in my work.	1	2	3	4	
	I have problems communicating with my colleagues.	1	2	3	4	
	I can help my clients.	1	2	3	4	
	I have no confidence in my clinical skills	1	2	3	4	

Is there a separate room with visual and auditory privacy in your working area?

1. Yes 2.No

Is there lack of PMTCT guideline in your working facility?

1. Yes 2.No

QUESTIONNAIRE II:

A checklist to assess structure for PMTCT services.

Name of the health facility:_____

Date of visit:_____ Code of the checklist:_____

Name of supervisor:_____ Signature:_____

	Available	**Unavailable**
Nevirapine tablet:		
Nevirapine syrup:		
Where is nevirapine kept?	**1.** In ANC YES □ NO □ **2.** In labor and delivery ward YES □ NO□ Other specify _____	
Availability cotrimexazole		

Laboratory supplies	**Available**	**Unavailable**
HIV screening test Kit		
HIV confirmatory test kit		
HIV tie breaker test Kit		
Nunc tube		
Test tubes		
Paster pippet tip		

Basic Infection prevention supplies	**Available**	**Unavailable**
Sharp boxes		
Aprons		
Goggles		
Autoclaves		
Gloves		

Basic obstetric care supplies	**Available**	**Unavailable**
Delivery couches		
Delivery sets		
Oxytocin		

Job aids and IEC materials	**Available**	**Unavailable**
PMTCT brochures		
PMTCT leaflets		
PMTCT guideline		
Monthly summary reporting format		
PMTCT stickers		
Pediatrics follow up register form		
Labor and delivery register form		
Laboratory log book		
Referral linkage		
Laboratory referral slips		
FP materials	Available	Unavailable
Condom		
Depo		
Implant		
IUCD		

Is there a separate counseling room for PMTCT services with visual and auditory privacy?

YES □ NO □

Number of room 1.one room 2.more than one room

Is there enough staff allocated for PMTCT service? YES □ NO □

Are the reports and the registrations complete? YES □ NO □

Is health education on PMTCT given? YES □ NO □

If yes how many times per week? _____

QUESTIONNAIRE III Check List for counselors' communication Skills

FOR EACH OF THE ITEMS, TICK THAT MOST APPROPRIATELY REFLECTS YOUR ASSESSMENT OF WHAT HAPPENED DURING THE INTERACTION

Function Skills		**score**		**comment**
Interpersonal relationship		yes	**No**	
	□ Greets clients			
	□ Introduces self			
	□ Listens actively (both verbally and non-verbally)			
Gathering information				
	□ Uses appropriate balance of open and closed questions			
	□ Uses silence well to allow for self-expression			
	□ Avoids premature conclusions			
	□ Summarizes main issues discussed			
Providing information				
	□ Gives information in clear and simple terms			
	□ Gives client time to absorb information and to respond			
	□ Checks for understanding/misunderstanding			
	□ Summarizes main issues			
Handling special circumstances				
	□ Accommodates language difficulty			
	□ Prioritizes issues to cope with limited time in short Contacts			
	□ Manages client's distress			
	□ Flexible in involving partner or significant other			

ANNEX III

II. Information sheet for mothers - English version

Date _____

Code_____

Health facility_____

My name is ……. I am working on this research project by Addis Ababa University College of health sciences, school of allied health science, department of nursing & midwifery, Post graduate nursing programme with the objective to assess the quality of service on prevention of mother to child transmission of HIV at South wollo zone governmental hospitals Amhara region, Ethiopia. I am interviewing mothers by exit in-depth interview after they have get the service. So your cooperation has great role for fruitfulness of this study. You do not have to answer any questions that you do not want to answer, and you may end this interview at any time as you want. Any care or service provision never be discontinued related to your refusal to participate in this study. The care & support will continue even you did not accept this study. You can change your idea at any time even if you accept the study.

Risks: by participating in this study you will not face any risk but if you suspect any risk or questions you can rise at any time.

Benefits & incentives: No any incentives you get in participating in this study. But the aim of this study is to assess the service provision for preventing mother to child HIV transmission.

Confidentiality: Your information will not be disclosed for any one except by the investigator. your name will not be written in the paper but by only coding. This code known only by the data collector. The data may be seen by investigator, advisor and data collectors but for others not will be disclosed

Share the finding: If you want to know the finding at the end of the study we can communicate. The result of the study will be disseminated for different scholars, scientific communities & other who want to know.

Time of interview: The interview will take about 20-30 minutes for PMTCT service providers and 30-50 minute for mothers through exit in-depth interview.

2. Consent form

Consent sheet

I_____ heard all information above about the purpose of study, confidentiality, risks & time taken for the interview in this study. I am knowledgeable about all aspect of this study.

If you ever have questions about this study, you should contact the Principal investigator, **Debrnesh Goshiye,** mobile number. +251937558537 or Email- debrye85@gmail.com

Agreement of the Participant: Do you agree? A. Yes B. No

If yes continue or if no give thanks & proceed to other participant

Name of data collectors _____date_____

Thank You for willingness to participate

QUESTIONNAIRE IV

Code number _____

Address _____

Age _____

Educational status _____

Religion _____-

Marital status _____

Occupation _____

In-depth interview guide for PMTCT service user mothers

1. How do you understand about PMTCT program?

Probe: Describe PMTCT service in your own word.

2. What advantages do you get having enrolled in PMTCT program?

Probe: what do you get from the service.

What kind of services do you received during the clinic visits?

3. How much time do you spent in the clinic for PMTCT service?

Probe: Waiting time

Time spend with provider

4. To what extent are satisfied with PMTCT services?

Probe: are you happy with the service you get? with the room, the provider, such a like….)

5. What challenge do you face with this program?

Probe: do you face any problem while using the service

6. What is your opinion about the service?

Probe: do you want to add any more?

ቅፅ 3: በአሚኛ የተተረጎመ የስምምነት እና የሚጃ ቅፅ

አዲስ አበባ ዩኒቨርስቲ የጠፍ ሳይንስ ኮሌጅ

የነርሲንግ እና ሚድዋይፈሪ ትምህርት ክፍል የደህረ ምረቃ ፕሮግራም

ቅፅ 4: በደቡብ ወሎ ዞን በሚኙ የመንግስት ሆስፒታሎች ወስጥ ኤች ኤይ ቪ ኤድስ ከእናት ወደ ልጅ እንዳይተላለፍ ለመከላከል የሚሰጠውን አገልግሎት ለሚከተሙእናቶች የተዘጋጀ ጥልቅ ቃለመጠይቅ

01-ቀን / /

02-የጥያቄዎች መሊያ ኮድ ቁጥር_____

03-የጠፍ ተቋም ስም _____

የሚጃ መለጫዪ ቅፅ

ስሜ_____እባላለሁ፡፡በአዲስ አበባ ዩኒቨርሲቲ ሕክምና ፋኩሊቲ ነርሲንግና ሚድዋይፈሪ ት/ት ቤት በሚደረገው ጥናት ላይ ማለትም ኤች ኤይ ቪ ቫይረስ ከእናት ወደ ልጅ እንዳይተላለፍ ለመከላከል የሚሰጠውን አገልግሎት የጥራት ደረጃ በተመለከተ መረጃ ለመሰብሰብ ነው፡፡ መረጃውን ለመሥብሠብ የአገልግሎቱን ተጠቃሚ እናቶች ጥልቅ ቃለ መጠይቅ ሚድረግ ያስፈልጋል፡፡ በመሆኑም የእርስዎ ትብብር ለጥናቱ መሳካት የሚይተካ ሜኛ አለው፡፡ በዚህ ጥናት ላይ መሳተፍ ካልፈለጉ በአገልግሎት አሰጣጡ ላይ ምንም የሚለወጥ ነገር አይኖርም፡፡ የሚሰጠዉ እንክብካቤ ይቀጥላል፡፡አሁን አዎ ቢሉም እንኳን ሃሳብዎን መቀየር ይችላሉ፡፡

ስጋቶች፤ እርስዎ የጥናቱ ባለቤት በመሆንዎ የሚያሰጋዎት ምንም ነገር አይኖርም፡፡ነገር ግን ያልተለመደ ነገር ካጋጠመዎ በማኛወም ስዓት ነፃ ሆነዉ ያለዎትን ስጋትና ጥያቄ እንዲነግሩን እንፈልጋለን፡፡

ጥቅም እና ማበረታቻ፡ በዚህ ጥናት በመሳተፍዎ የሚሰጥዎት ጥቅም ሆነ ማበረታቻ የለም፡፡ነገር ግን ይህ ጥናት ማንኛወም ህፃን ከኤች ኤይ ቪ ኤድስ ጋር መወለድ የለበትም የሚለዉን እራዕይ ለማሳካት ከፍተኛ ሜኛ አለዉ፡፡

ሚስጥርማበቅ፡ ከእርስዎ የሚሰበሰበዉ መረጃ በሚስጥርነት የሚያዝና ከአጥኝዉ በስተቀር ሌላ ሰዉ አያየወም፡፡ማንኛወም ስለእርስዎ የሚሰበሰብ መረጃ ላይ ስምዎ አይፃፍም፡፡ በስምዎ ምትክ የሚስጥር ቁጥር የሚሰጠዉ ይሆናል፡፡ ይህን ቁጥር የሚያወቀዉ አጥኝዉ ብቻነዉ፡፡ ከአጥኝዉ ከአማካሪዉ ከጥናቱ ስፖንሰር አድራጊ በስተቀር መረጃዉ ለማንም ሌላ ሰዉ ተላልፎ አይሰጥም፡፡

ግኝቶችን ስለመግለፅ፡ እርስዎ የጥናቱን ግኝት ማወቅ ከፈለጉ ጥናቱ ካለቀ በኋላ ከእርስዎ ጋር መወያየት እንችላለን እንዲሁም ስለጥናቱ ለሌሎች ምሁራን እና ለተለያዩ ህብረተሰብ የምናካፍል ይሆናል፡፡ይህን የምናደርገዉ የጥናቱን ዉጤት ለማወቅ ለሚፈልጉ ሁሉ በፅሁፍ እና በተለያዩ ድህረ-ገፅ ነዉ፡፡

ጥናቱ የሚወስደዉ ግዜ – ይህ ጥናት ከ20 ደቂቃ እስከ 30 ደቂቃ ያህል ግዜ ይወስዳል፡፡

የ ጥ ና ቱ ተ ሳ ታ ፊ የ ስ ም ም ነ ት መ ረ ጃ

እ ኔ ----------የ ተ ባ ል ኩ ት ግ ለ ሰ ብ ከ ላ ይ የ ተ ገ ለ ፀ ል ኝ ን መ ረ ጃ በ ት ክ ክ ል አ ዳ ም ጬ ተ ረ ድ ቻ ለ ሁ ። የ ጥ ና ቱ ን ት ቅ ም ፤ የ ሚ ያ መ ጣ ዉ ች ግ ር ፤ ሚ ስ ጥ ር መ ጠ በ ቅ ፡ ጥ ቅ ማ ጥ ቅ ም እ ና የ ሚ ወ ስ ደ ዉ ግ ዜ በ ተ መ ላ ከ ተ ተ ገ ን ዝ ቤ አ ለ ሁ ። ፡

ይ ህ ን ጥ ና ት በ ተ መ ላ ከ ተ ማ ን ኛ ዉ ም መ ጠ የ ቅ የ ሚ ፈ ል ጉ ት ጉ ዳ ይ ካ ለ ዎ ት የ ዋ ና አ ጥ ኚ ዉ አ ድ ራ ሻ እ ን ደ ሚ ከ ተ ለ ዉ እ ገ ል ፃ ለ ን

ስ ም፡ ደ ብ ር ነ ሽ ጎ ሽ የ ም ረ ቱ

ሰ ል ክ ቁ ጥ ር - 0937558537

ኢ ሜ ይ ል - debrye85@gmail.com

በ ጥ ና ቱ ላ ይ ለ መ ሳ ተ ፍ ፈ ቃ ደ ኛ ነ ሽ ?

ሀ . አ ዎ ***ለ . አ ልፈ ል ግ ም***

አ ዎ ከ ሆ ነ ይ ቀ ጥ ሉ ፤ አ ል ፈ ል ግ ም ካ ሉ አ መ ሰ ግ ኑ ና እ ና ወ ደ ሜ ቋ ጥ ለ ዉ ቃ ለ መ ጠ ይ ቅ ይ ሂ ዱ ። ፡

የ መ ረ ጃ ሰ ብ ሳ ቢ ዉ ስ ም ----------

ፊ ር ማ---------- ቀ ን ----------

ቅ ፅ 4 ፡ በ ደ ቡ ብ ወ ሎ ዞ ን በ ሚ ኙ የ መ ን ግ ስ ት ሆ ስ ፒ ታ ሎ ች ዉ ስ ጥ ኤ ች ኤ ይ ቪ ኤ ድ ስ ከ እ ና ት ወ ደ ል ጅ እ ን ዳ ይ ተ ላ ለ ፍ ለ መ ከ ላ ከ ል የ ሚ ሰ ጠ ዉ ን አ ገ ል ግ ሎ ት ለ ሚ ዉ ሉ እ ና ቶ ች የ ተ ዘ ጋ ጀ ጥ ል ቅ ቃ ለ መ ጠ ይ ቅ

ቀ ን / /

የ ጥ ያ ቄ ዎ ች መ ላ ያ ኮ ድ ቁ ጥ ር _____

የ ጤ ና ተ ቋ ም ስ ም _____

xd ሜ ----------

ሀ ይ ማ ኖ ት ----------

የ ጋ ብ ቻ ሁ ኔ ታ ----------

የ ት ም ህ ር ት ደ ረ ጃ ----------

የ ስ ራ ሁ ኔ ታ ----------

1 . ኤ ች አ ይ ቪ ከ እ ና ት ወ ደ ል ጅ እ ን ዳ ይ ተ ላ ለ ፍ ለ ሚ ደ ረ ግ ስ ለ ሚ ሰ ጠ ዉ አ ገ ል ግ ሎ ት ም ን ታ ዉ ቂ ለ ሽ

ማብራሪያ፡ ስለ አገልገሎቱ በራስሽ አባባል ግለጪኝ

2.በዚህ ፕሮግራም መካተትሽ ምን ጠቀመሽ

ማብራሪያ. በዚህ ፕሮግራም ወስጥ ያገኘሽዉ ጥቅም

ምን አይነት አገልግሎት

3. ለአገልግሎት በምትመጪበት ምን ያህል ጊዜ ታሳለፊለሽ/

ማብራሪያ አገልግሎቱን ለማግኘት ስትመጪ የሚፈጂብሽ ጠቅላላ የቆይታ ጊዜ

አገልግሎቱን የሚሰጥን አካላት ለማግኘት የሚወስድብሽ ጊዜ

4. በአገልግሎት ምን ያህል ረክተሻል

ማብራሪያ፡ በአገልግሎቱን ምን ያህል እንደረካሽ ግለጪኝ

5. በአገልግሎቱን በምትወስጂበት ወቅት ችግር አጋጠሞሽ ያወቅ ነበር፡፡

ማብራሪያ፡ ካለ ምን አይነት ችግር

6. ስለ አገልግሎቱ ሌላ የምትይዉ ነገር ካለ…

ማብራሪያ፡ ሌላ መጨመር የምትፈልጊዉ ሀሳብ ካለ….