Process evaluation of pediatrics antiretroviral treatment service in selected health facilities of Addis Ababa, Ethiopia

By;

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A Case of ZMH and WWO-AHF

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EXCUTIVE SUMMARY

Background: The pediatrics ART program was being implemented in Addis Ababa since 2005. However the service had been limited to nine health facilities until 2007. These health facilities were Governmental Hospitals (ZMH, Yekatit 12, Tikur Anbessa, Saint Peter, and ALERT), NGOs (SOS, WWO-AHF, and Missionary of charity) and private Hospital (Bethezata). This evaluation is planned to assess process of pediatrics antiretroviral treatment service of two health facilities (ZMH and WWO-AHF).

Objective of the Evaluation: to evaluate the implementation level and identify gaps of pediatrics ART services in selected health facilities in Addis Ababa, Ethiopia.

Methods: A cross-sectional institutional based study design which involved both (qualitative and quantitative data). The data were collected from December15, 2008 to January 30, 2009. Two supervisors and four data collectors were selected and trained for both (ZMH and WWO-AHF) health facilities. The data were cleaned edited and entered in a computer and analyzed using SPSS for windows version 16. For evaluation decision making purpose, the variables were summarized into indicator level, which can fit the basis for judgment. Summaries of findings were compared with the preset criteria-standards to judge the pediatric ART service.

Results: A total of 376 of parents/ caretakers responded to exit interview questionnaires out of 392 parents/caretakers of children who attended the clinic. The mean age of parent's or caretakers was 27.5 years (SD±12.7). Female respondents predominantly constitute 271(72.1%), 176 (46.8%) were orthodox Christians, and married 206(54.8%). Based on three indicators of accommodation dimension, 134 (87.9 %) of WWO-AHF s and 190(84.7 %) of ZMH Parent's/ caretakers were highly satisfied.

Almost all human and material resource required for both HFs were available according to national pediatric ART guideline. However the proportion of pediatric ART trained health professionals found was 60.1 % in WWO-AHF and 61.1 % in ZMH.

ART eligibility criteria, CPT eligibility criteria and continuous CD4 monitoring were compared against the pediatrics ART guideline. Sixty five children (26.4%), who visited ZMH pediatric ART facility, were not monitored for CD4 count/percentage in every six month. Out of 150 eligible children, 113 children (75.2%) were on ART. Out of 115 eligible

children for CPT, 91 children (79.1%) were actually receiving it. Similarly, 6 children (4.7%) of children who visited the WWO-AHF pediatric ART clinic were not monitored for CD4 count/percentage every six months. Out of 107 eligible children, 97 children (90.3%) were on ART. Out of 61 eligible children for CPT, those who actually received the treatment were 50 children (81.6%).

Conclusion

This study suggests that HAART to children in ZMH and WWO-AHF pediatrics ART program was judged very good based on the agreed criteria. This practice should be encouraged to be continued. However, adequate number of trained physicians on ART, and supervision are required. An emphasis on the compliance to the national ART guideline should be a key element for the successful provision of pediatrics ART service in both health facilities.

Acknowledgements

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List of Abbreviations

3TC	Lamivudine
AACA-HB	Addis Ababa City Administration Health Bureau
AIDS	Acquired Immuno-deficiency Syndrome
ALERT	Africa Leprosy Eradication, Rehabilitation, and Training Center
ANC	Antenatal clinic
ART	Antiretroviral therapy
ARV	Antiretroviral
AZT	Zidovudine
BCC	Behavioral Change Communications
CDC	United States Centers for Disease Control and Prevention
D4t	Stavudine
DHS	Demographic and Health Surveys
DACA	Drug Authority and Control Association
EA	Evaluability Assessment
EFV	Elfavirenz
HAART	Highly Active Antiretroviral Therapy
H F	Health facilities
HIV	Human Immunodeficiency Virus
IEC	Information, Education, Communication
M and E	Monitoring and Evaluation
MCH	Maternal and Child Health
MTCT	Mother-to-child transmission (of HIV)
MOH	Ministry of Health
NGO	Nongovernmental Organization
NVP	Nevirapine
OVC	Orphans and Vulnerable Children
PCR	Polymerase Chain Reaction Test
PEPFAR	Presidents Emergency prepared Fund for AIDS Relief
PHC	Primary Health Care
PMTCT	Prevention of Mother-to-child transmission (of HIV)
RHB	Regional Health Bureau
SOS	Save Our Soul
SC-HD	Sub-City Health Department
T and C	Testing and Counseling (for HIV)
UNAIDS	United Nations Program on HIV/AIDS
UNFPA	United Nations Population Fund
UNCEF	United Nations Children's Emergency Fund
VCT	Voluntary Counseling and Testing
WWO-AHF	Worldwide orphanage Area health facility
WHO	World Health Organization
ZMH	Zewditu Memorial Hospital

Definitions of terms

Availability: physical presence of a service or specific items important for rendering services.

Adherence: is taking all ARV pills in the correctly prescribed doses at the right time and in the right way observing the client.

Basis for judgment: standards or cut off points set to be used to make a decision statement concerning the merit, worth, or significance of the program.

Compliance to standard: Applying the guideline or standard operation manual in to practice.

Eligible for ART*:* children with HIV/AIDS who fulfills one or more of the following criteria based on data collected from chart records: [1]

-WHO stage I

- < 20% or < 750 cells/mm3 for child 12-35 months
- < 20% or < 350 cells/mm3 for child 36-59 months
- < 15% or < 200 cells/mm3 for child >5 years

-WHO stage II

- < 20% or < 750 cells/mm3 for child 12-35 months
- < 20% or < 350 cells/mm3 for child 36-59 months
- < 15% or < 200 cells/mm3 for child >5 years

- All WHO stage III and IV

Eligible for Cotrimoxazole prophylactic therapy (CPT)*:* Prophylaxis is recommended for the following: [1]

- All HIV-infected children <12 months regardless of CD4 value
- All HIV-infected children 1-4 years with:
    - Clinical stage 2, 3, or 4 disease or CD4 <25%
- All HIV-infected children >5 years with:
    - Clinical stage 3 or 4 disease or CD4 <350

Pediatrics ART*:* Treatment care provided to infants and children with HIV/AIDS infection at ART clinic level during both pre and post ARV initiation periods.[1]

Primary caregiver: a person who has consistently assumed responsibility for the housing, health, or safety of the child (individuals who administered the child medication daily and bringing the child for clinic appointments).[1]

Chapter1. Background Information

1.1. Global Challenges of HIV/AIDS

Currently over 40 million people lived with HIV and over 1,500 unborn or new born babies are infected every day globally. HIV newly infected children under age of 15 computed as 700, 000 [630, 000 – 820, 000], and Deaths due to HIV/AIDS in children is about 570, 000 [510, 000 – 670, 000] end-2005[2].

Globally 2.3 million estimated children are living with HIV/AIDS. 2.1 million of these children are in sub-Saharan Africa (90% occurred in Sub-Saharan Africa).[38] HIV-infected infants frequently present with clinical symptoms in the first year of life, and by one year of age an estimated one-third of infected infants will have died, and about half by 2 years of age. An estimated 660,000 of such children believed to be in urgent need of life-saving ART. There is a critical need to provide antiretroviral therapy (ART) for infants and children who become infected despite the efforts being made to prevent such infections[3, 4].

One million adults receiving ART in resource limited setting with very good treatment outcomes, to date, far too few children have been started on treatment in these settings, with estimates of less than 5% of young HIV-positive children who are in need of pediatrics AIDS treatment receiving it[3].

Infants and children account for one in seven of all AIDS-related deaths worldwide. Every day, over 1,000 children below the age of 15 die of HIV/AIDS-related causes, and an additional 1,500 are infected with the virus. These trends are likely to have devastating social and economic consequences for many future generations if allowed to continue unimpeded, especially in those countries in sub-Saharan Africa and Southeast Asia hardest hit by the epidemic[5].

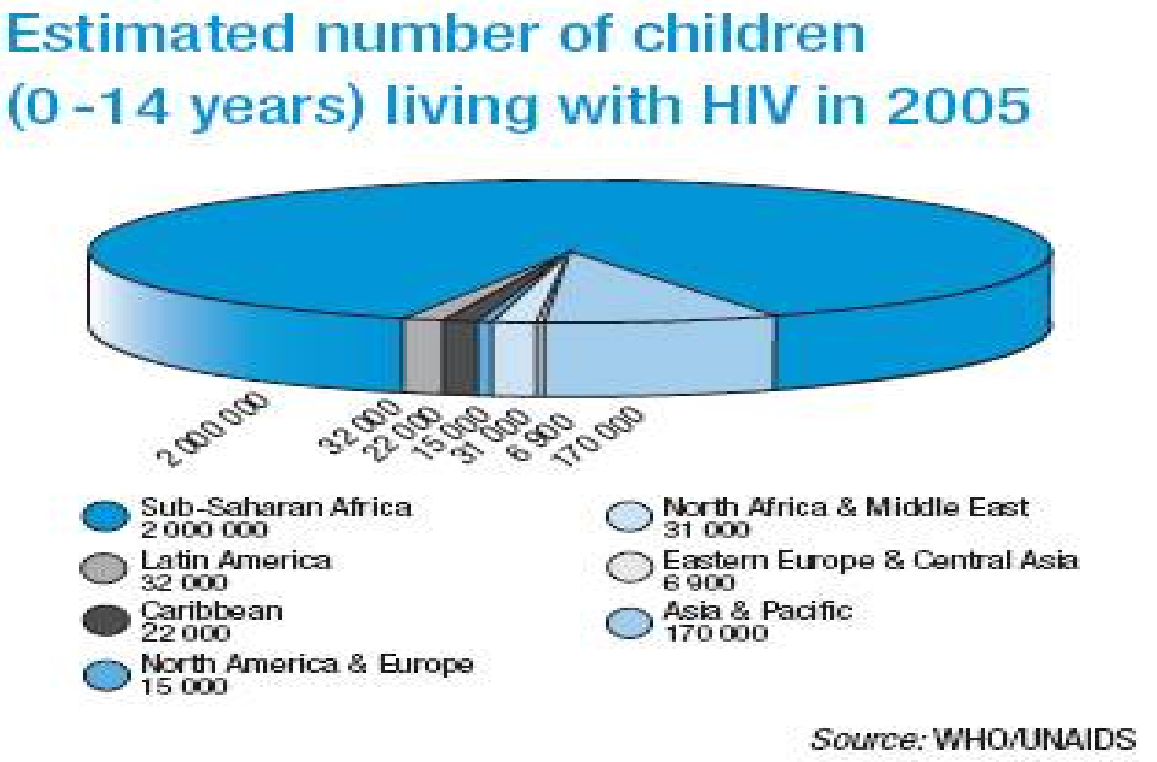


Fig.1 Pie diagram showing HIV infection on children world wide[6]

1.2 HIV/AIDS Situation in Ethiopia

The most significant source of HIV infection in children and infants are transmission of HIV from mother to Infants. Ethiopia is particularly at risk as a consequence of high fertility rates and high infection rates among women of child bearing age.

Ethiopia's population reached an estimated 73 million in mid-2005, and is expected to grow by over 2.0% annually through 2025. Ethiopia's population is young with 43% under the age of 15 years. Eighty-four percent of the population is rural. Ethiopia has a federal system with nine regions and two Administrative Councils (Addis Ababa and Dire Dawa) "[7].

62,924 children living with HIV/AIDS are predicted to need treatment, but only 515 are receiving ART through the public sector as of 12/2005. Less than one percent of children in need are receiving ART As of December 9, 2005. HAPCO/FMOH report

515 children receiving ART in public sector Urgency: Without treatment, 50% of HIV-infected children will die before their 2nd birthday and 75% before their 5th birthday.[8]

Ethiopia HIV prevalence for children aged between 0-14 years old (single point HIV prevalence Estimate for year of 2009 G.C), HIV prevalence rate, ART service and its consequence is summarized in table the below. [8]

Table1. HIV prevalence for children aged between 0-14 years old

S.N	HIV prevalence in children (0-14 years old)	Ethiopia	Addis Ababa	Remarks
1	Total HIV population	72,945	6,545	
2	New HIV infection	14,140	906	
3	Annual AIDS death	7,214	354	
4	ART Coverage	9,851	895	
5	ART needs	20,522	2,080	

1.3 Regional HIV/AIDS trends in Addis Ababa

The land mass of Addis Ababa City Administration is estimated about 540 square kilometers and nearly with estimated population of 2,887,615 among which 300,312(10.40%) are under 5 years age, 62,472(2.20%) are under 1 years and 60,239(2.10%) are surviving infants. [9] Administratively, it is divided into 100 kebeles and 10 sub-city administration.

Report of AACA-HB on July 2007 number of HIV/AIDS children who are started for ARV treatment are 1,604 and currently 1,561 children on ARV treatment.

The pediatrics ART program was started in Addis Ababa, since 2005. In Addis Ababa region there are 22 hospital sites have already started adult ART. However, there are nine hospitals of them have ever started Pediatrics ART. These hospitals are five Governmental Hospitals (ZMH, Yekatit 12, Tikur Anbessa, Saint Peter, and ALERT) three NGOs (SOS, WWO-HF, and Missionary of charity) and one private (Bethezata).

Chapter2. Rationale for the study

Despite the impressive scale-up of ART access in various parts of the world, the intensity of effort has not been extended as successfully to HIV-positive infants and children. This fact is especially alarming since the course of infection is faster and more aggressive in children; it is critical that they are diagnosed early and provided with ART as early as possible.[3]

There are few studies was conducted on pediatrics especially on HIV/AIDS affected children in Ethiopia. Little is known about the service quality of care on the response to therapy in children with HIV infection in Ethiopia. Further, the outcome of the finding is important for policies and guidelines that are in place to support the implementation at health facility levels in similar set up.

It is also intended to scale-up of the national response in pediatric ART initiative program in Addis Ababa town. This study wills strength the health facilities in promoting the ability to plan, implement and evaluate the program implementation in their respective site.

Chapter3. Identification and description of stakeholders and their roles

An evaluation of programs was based on their usefulness, given the focus on program improvement with participation by potential users throughout the entire evaluative process[10].

3.1 Addis Ababa City Administration Health Bureau (AACA-HB) is the main implementer of pediatrics ART program. All activities regarding ART were coordinated by the health bureau. Discussion was conducted with the head of AACA-HB. During the discussion, different issues were raised about the pediatrics ART program such as the stage of development of the program. The problems faced during implementation of the program; the solutions attempted; the health office's interest in the evaluation of the program and which evaluation questions addressed were deeply discussed.

The health bureau was actively involved from planning to implementation of the evaluation in selected governmental hospital. There are 5 governmental hospitals (Zewditu Memorial, Yekatit 12, Black Lion, Saint Peter, and ALERT) provide pediatric ART service. A zewditu memorial hospital was selected for the study.

3.2. Worldwide orphanage areal HF: is program implementer and stands for non-profitable humanitarian organization (NGO). The purpose of evaluation was discussed with director of organization and staffs before conducting it. Finally evaluation was undergone.

3.3. Addis Ababa HIV/AIDS Prevention and Control Office (***HAPCO)***: responsible for financial and technical support. The third stakeholder identified was HIV/AIDS prevention and control office (HAPCO).

3.4 MOH: Involve and assist in developing policy, program planning, guidelines, logistic procurement and training.

3.5. UNAIDS: They assist in funding and technical support for HAPCO.

3.6. CDC: Funding organization and gives technical support.

3.7. PEPFAR: responsible for technical and financial support.

3.8. Community and Beneficiaries: are indirectly or directly affected by the program and are responsible in proper utilizing available medical resource.

Table2. Stake holders' involvement and interest in Addis Ababa from 2008 up to 2009 G.C

Stakeholders	Category	Interest in findings	Involvement/ Role in evaluation
AACA-HB ***	The program director and implementer	for program improvement through training and recruiting human power	Participate in proposing evaluation question and implementation of evaluation
Zewditu Memorial Hospital ***	The program implementer	To allocate professionals, materials, strength activities	Participate in planning, identification evaluation question and implementation of evaluation
Worldwide Orphanage ***	The program implementer	To improve program implementation by training, and resource allocation	Participate in planning, identification evaluation question and implementation of evaluation
MOH ***	The program director and supervisor	Use the Evaluation Finding for decision making(to improve the activity of the ART site)	Participate in proposing evaluation question and implementation of evaluation
HAPCO ***	the program director and supervisor	Use the finding For decision making (rational use of resources)	Participate from planning to implementation of the evaluation
UNAIDS **	Providing the program fund	Use the evaluation finding For program improvement(to integrate the service)	Policy decision , Provisioning technical support and sharing result for further funding
PEPFAR **	Providing the program fund and technical support	Use the evaluation finding For program improvement(to integrate the service)	Policy decision , Provisioning technical support and sharing result for further technical support funding
CDC **	Providing the program fund	Use the evaluation finding For program improvement(to integrate the service)	Policy decision , Provisioning technical support and sharing result for further funding

* Key: importance *** High ** Medium * Low

Stakeholders who have direct involvement and participated during evaluation are ranked as high. The Matrix is designed to show level of involvement in relation to the impact of the study. The matrix helps to recommend the findings according to their involvement and action. Interest and impact of stakeholders on the evaluation is described in the table below.

Table3. Matrix of Stakeholders Analysis

		Intended impacts of the study				
Potential audience for the study findings	***Levels of audience involvement with the program***	***Assess quality of the program***	***Facilitate decision-making***	***Generate support for the program***	***Revise current theories about Pediatrics ART***	***Inform best practices for Pediatrics ART programs***
AACA-HB	*Direct*	**X**	**X**			**X**
Zewditu Memorial Hospital(GO)	*Direct*	**X**				
Worldwide Orphanage(NGO)	*Direct*	**X**	**X**	**X**		
MOH	*Indirect*	**X**	**X**	**X**	**X**	**X**
HAPCO	*Indirect*	**X**	**X**	**X**	**X**	**X**
UNAIDS	*Indirect*	**X**		**X**	**X**	**X**
PEPFAR	*Indirect*	**X**		**X**	**X**	
CDC	*Indirect*	**X**		**X**	**X**	

As it is depicted in the table, the two major interests of the stakeholders are to understand the program processes and to generate support for the program. Taking this in to consideration this evaluation was planned to assess the implementation level of the program.

Chapter4. The Program Theory

The pediatrics ART program is at implementation stage and not matures enough to produce effects on the target population. The program is funded by CDC, PEPFAR, and UNAIDS. The pediatrics ART program is an integrated service with other service like child treatment and support service.

The pediatrics ART program is being implemented with the view to helping children with HIV/AIDS in reducing morbidity and mortality due to HIV/AIDS and improving quality of their lives. The program aims to reduce stigma and discrimination related to HIV/AIDS.

Program theory in respect to Economic, Ethiopia is a low-income country with a per capita gross national income of $110 in 2005. Its economy is largely dependent on the agriculture sector, which also provides about 85% of employment. Recurrent famines and civil wars, as well as high population growth have contributed to this low socio-economic status. The Ethiopian population is young (with 44% under the age of 15 years) and rapidly growing, resulting in a high dependency ratio. The population growth is also putting pressure on cultivable lands and contributing to environmental degradation, which is worsening the level of poverty. [1]

Program theory in respect to political commitment: - Ethiopia has adopted UN General Assembly resolution 60/262, also known as the Political Declaration on HIV/AIDS, which was passed on 2 June 2006. The declaration includes a commitment by UN Member States to move towards the goal of universal access to HIV prevention, treatment, and care and support services by 2010. It also calls on each country to set ambitious national targets to be achieved by the year 2010, and to work with partners at country level to overcome the barriers that block access to prevention, care and treatment. [1]

4.1 Resources Available for the Program

- Pediatrics ART clinic staff
- IEC materials
- Finance
- ART guidelines, computer, furniture's, Report& register book
- Drugs from DACA funded by PEPFAR

4.2 Activities being undertaken

- Registering new eligible HIV/AIDS child for ART
- PCR lab. examination for confirmation of symptomatic child
- Prescribing ARV drugs
- Helping psychosocial coping of AIDS child
- Counseling on adherence to ARV drugs to parents
- Education on preparing food & keeping hygiene of AIDS child
- Referring HIV/AIDS child to care & support center

4.3 Program strategies:

- Ensure collaboration and support among Pediatrics ART and partners.
- Improve public awareness and community participation through IEC materials distribution, intensive and regular social mobilization and review meetings.
- Strengthening of the existing ART site by materials & technical support

4.4. Program goal and objectives

Goal: To decrease the number of death due to HIV/AIDS in the population and maintain improved quality of life of children with HIV/AIDS[2].

Program General Objective: To provide good quality HIV/AIDS related treatment, care and support services to enable children(<15 years of age) living with HIV/AIDS in Addis Ababa city live improved quality of life, and make them contribute for future socio economic development of the society[2].

Specific Objectives:

1. To give quality ART service i.e. according to the national standards
2. To provide care and support to children infected with HIV/AIDS
2. To provide the necessary supplies to ART sites in the region timely and regularly. [2]

Figure 2: Logical Model of the Pediatrics ART Program at health facilities

Problem; High mortality and morbidity in infants and children due to HIV/AIDS

Goal:- To decrease the number of death due to HIV/AIDS in the population and maintain improved quality of life of children with HIV/AIDS

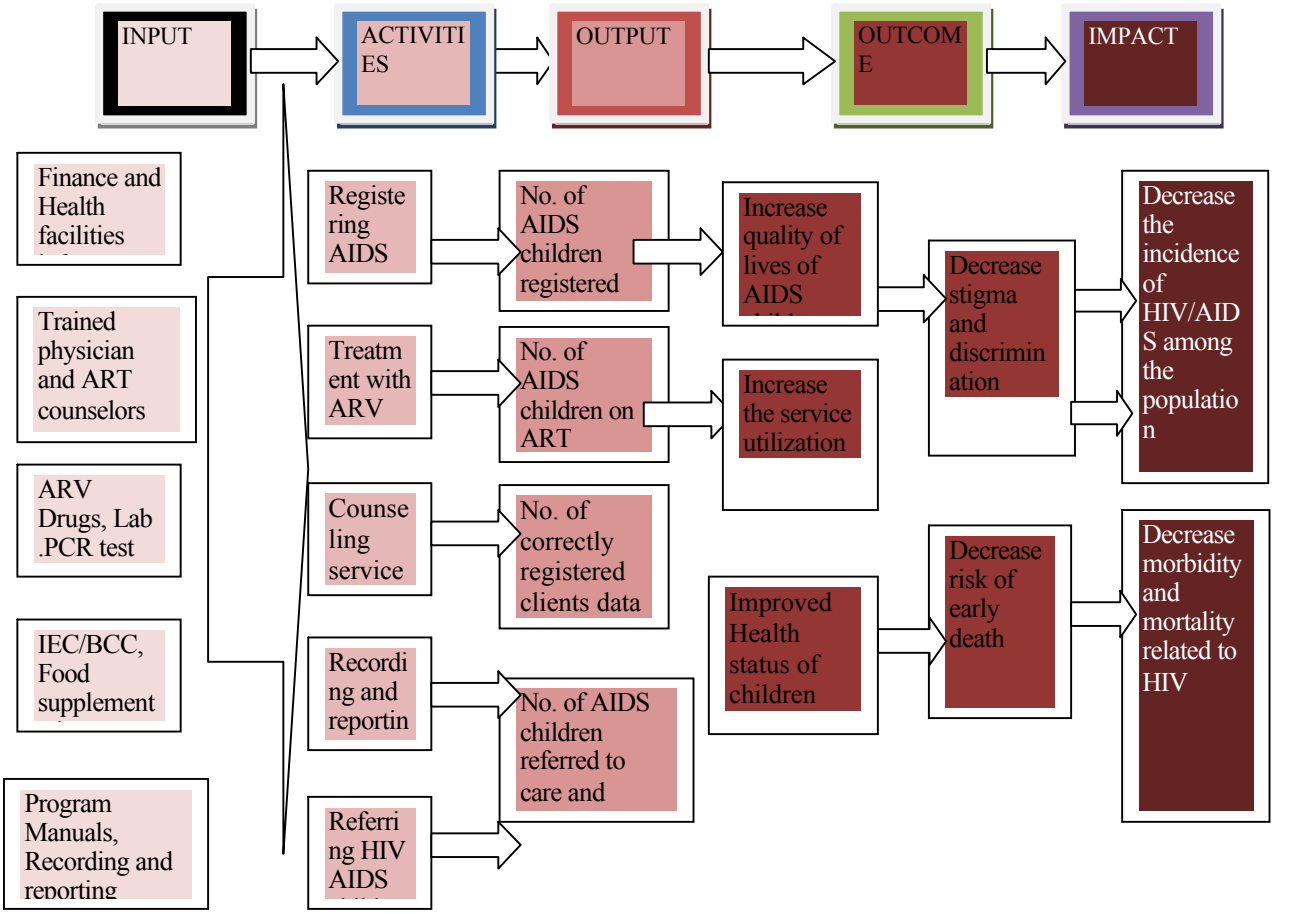
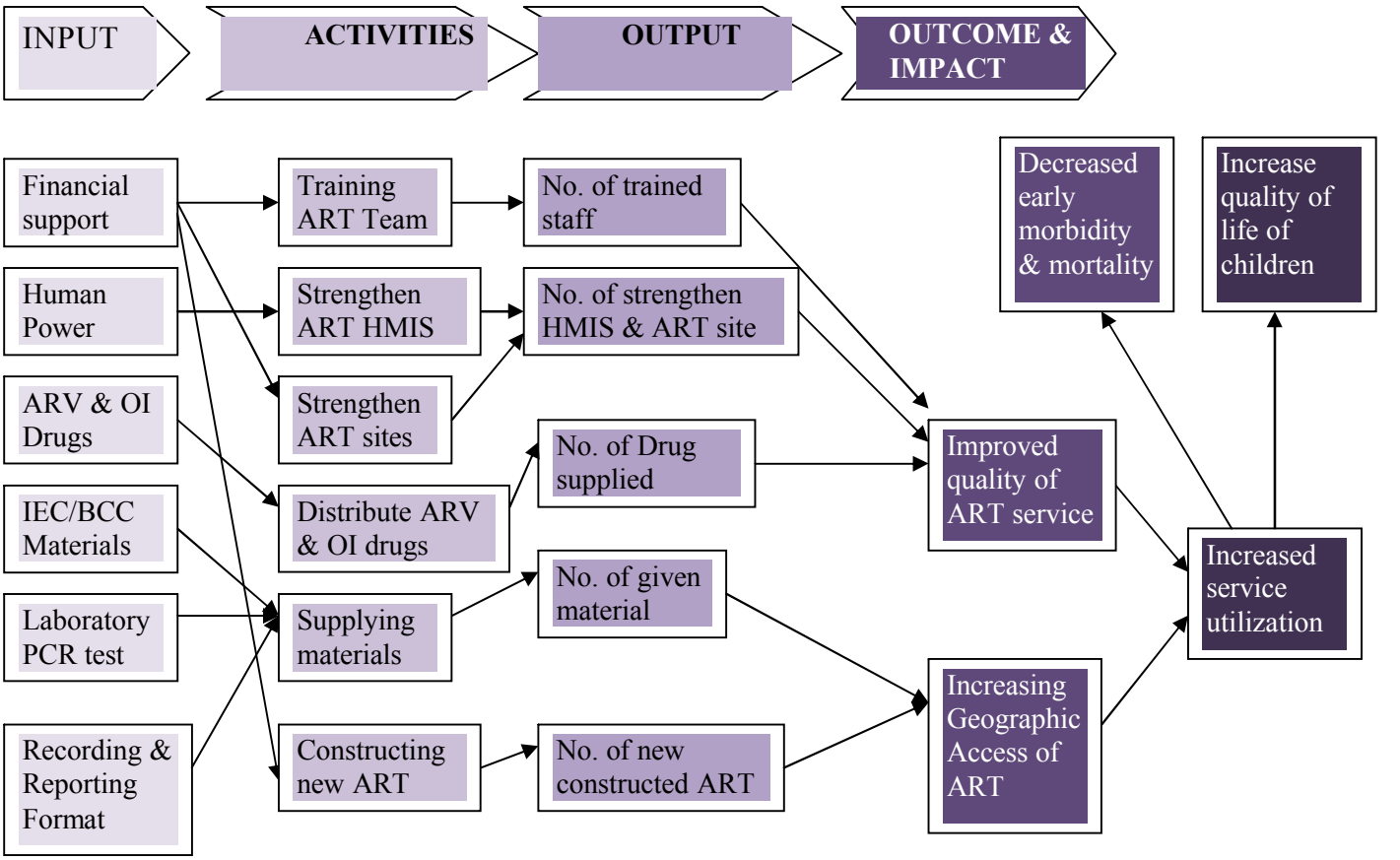


Figure3. Regional Health Bureau Logical Model

Problem; High mortality and morbidity in infants and children due to HIV/AIDS

Goal:- To decrease the number of death due to HIV/AIDS in the population and maintain improved quality of life of children with HIV/AIDS

Objective (short term):- To provide good quality HIV/AIDS related treatment, care and support services



4.5 Purpose of evaluation

Evaluation study helps to assess program in respect to social factors like living condition of child, loss of one or both parents, and availability of social support. Program in respect to health related condition like nutritional status, access to medical care, availability of HIV treatment, availability of adequately trained staff, pediatrics ART service time, and financial access to health care.

The study also improves pediatrics ART service by providing relevant information based on evaluation. Furthermore it identifies strong aspects of the program and encouraging for other similar program application. In other side it helps to explore weak side of the program processes and modifies or corrects it.

Chapter 5.Theoretical model of evaluation

5.1 Evaluation Question

Did antiretroviral treatment program provide a quality service according to National guideline? If it is not then what are the barriers and facilitators to achievement?

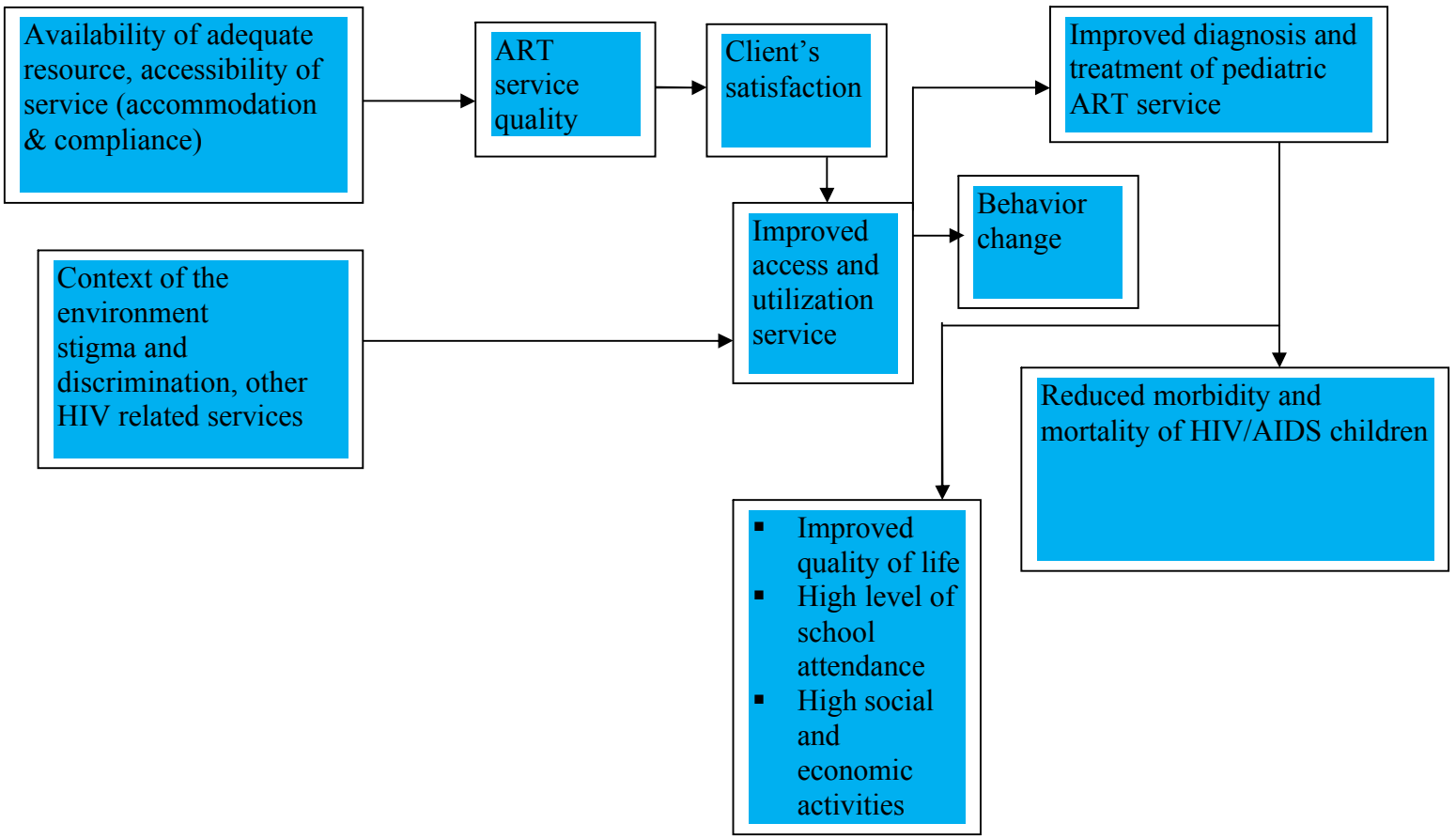
General Objective of the Evaluation

To evaluate the implementation level and identify gaps in the process of pediatrics ART services in selected health facilities of Addis Ababa, Ethiopia.

Specific objective of the evaluation

1. To determine the availability of adequate trained human and material resource to the pediatrics ART service according to national guidelines.
2. To evaluate the pediatrics ART service processes compliance to the national guidelines.
3. To measure the perception of parents/care takers and HIV/AIDS children on the pediatrics ART service.

Fig. 4 CONCEPTUAL FRAME WORK FOR PEDIATRICS ART



Conceptual framework for pediatric ART service presented in the above is designed to depict the program anticipated result through the proper project implementation and considering the internal and external environments that precipitate or decrease expected outcome of the program.

5.2 Evaluation dimension

Evaluation dimensions are mostly addressed under access sub dimension in this study. Thomas and Pinchansky in 1981G.C, said that concept of access is the "degree of fit" between the health system and those it serves; a dynamic process of interaction between

health systems (or supply-side) issue and individual or household (or demand-side) issues. [11]

Access refers to the possibility of using health services when necessary; expressed characteristics of supply that favor or hinder people's capacity to use the health services when needed. Access barriers originate in the system and the health service characteristics. The availability of services and their geographical distribution, the availability and the quality of human and technological resources, the funding mechanisms, the assistance model, and information about the system are characteristics that affect access.[11]

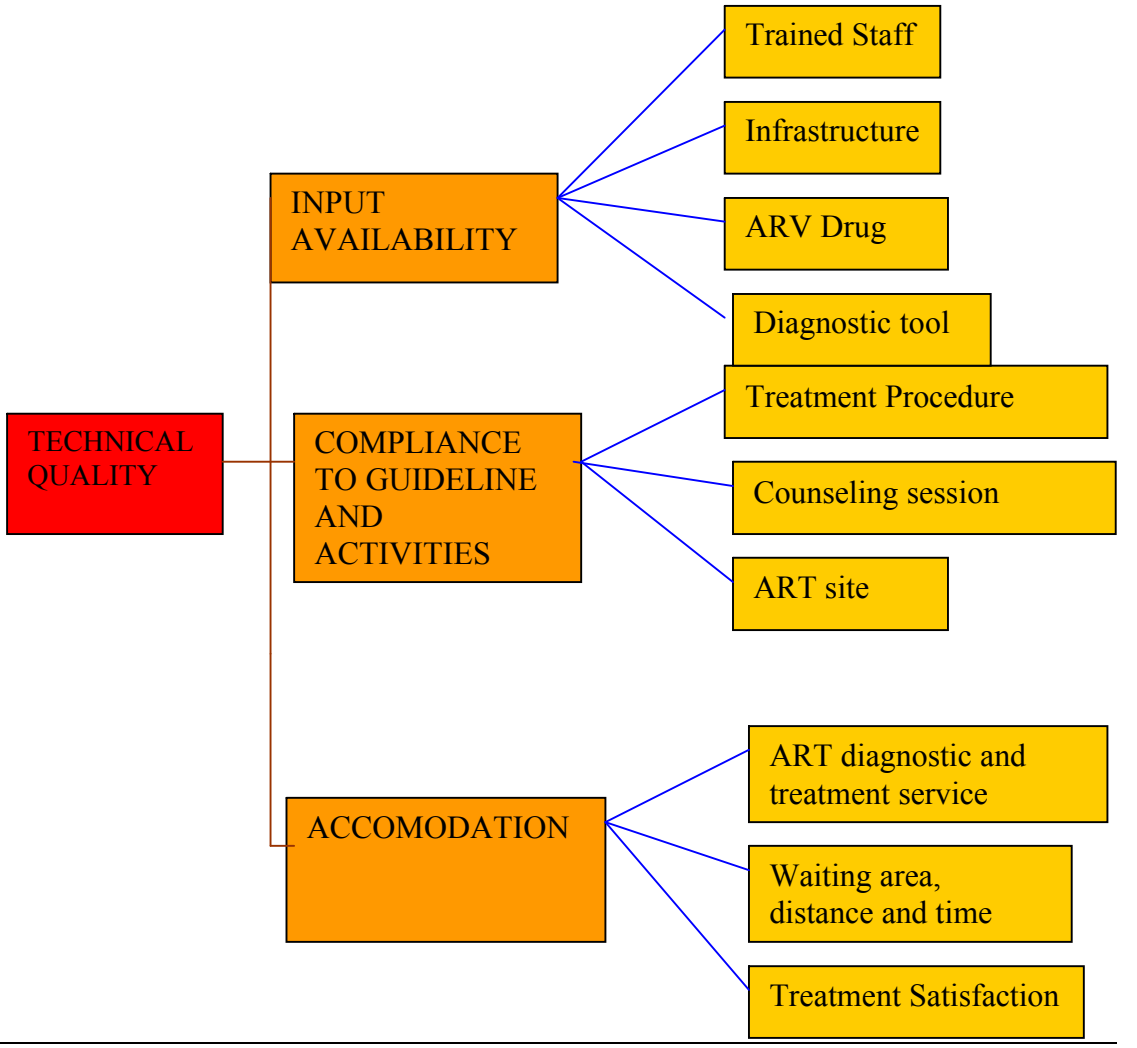
Availability: is one component of access; it refers to the presence of the necessary inputs and activities. Resources availability, type and quantity of (financing, human, and technological), geographical localization, local medical culture, ideology of the health deliverer, and among others are aspects of supply that influence the consumption pattern of the individuals. Hence, the evaluation will assess the presence of supplies and activities, as well as the timeliness of activities and utilization of the service by the population.[12, 13]

Accommodation: refers to the setup of the organization to accept clients, the client's convenience of its appropriateness and ability to accommodate to organizational factors.[14]

Compliance*:* refers to whether the inputs and activities are according to the standard or with the best practice. Therefore, the inputs and activities of the pediatrics ART sites will be assessed and compared with the national standard.

The Spider diagram depicts the relationship and influence of the above mentioned dimensions. Technical quality of the service is affected by the level of availability of resources, compliance of the program to preset guideline and activities, and the accommodation of pediatrics ART service to the clients. For better understanding refer to the following diagram.

Fig. 5 SPIDER DIAGRAM: DIMENSSION TECHNICAL QUALITY[5]



5.3 The Evaluation Focus and Approach

The focus of the evaluation was on process that means it focuses on activities and outputs. According to CDC evaluation guide, process evaluation is important to assess whether the program has been implemented as intended (planned) and gives and answer to why? And why not questions. [15]

The approach of the evaluation was formative. Formative evaluation can be conducted during the implementation to assess whether the program is working and recommend adjustments and new approach based on the evaluation findings. [16]

6. Study Methods

6.1 Study Area and Period

The study area is Addis Ababa, Capital city of Ethiopia. The selected health facilities are Zewditu memorial hospital (Governmental Hospital) and WWO-AHF (NGO area health facility), which provide pediatrics ART service. Data collection was done starting from December 15, 2008 up to January 30, 2009. Zewditu Memorial Hospital is general and specialized Hospital. The Hospital is providing service like adult ART, Pediatrics ART, VCT service, PMTCT service, in related to HIV/AIDS service. ZMH also provides other service in treatment of patient, inpatient service, delivery service, etc…. whereas WWO-AHF is focused on giving health service to children like ART service, diagnosis and treatment of diseases, nutritional supplementation, and other social support service.

6.2 Study Population

Health institutions: - One governmental hospital (Zewditu Memorial Hospital) and one NGO (WWO-AHF) were selected health facilities. These facilities are actively providing pediatrics ART service in Addis Ababa.

Study participants*:* - All parent's or caretakers' and children receiving ARV regimen in pediatric ART service of above health institution are targeted for the study during data collection period. Patient medical records and charts were selected during the study.

6.3 Sample size and sampling techniques

Sample for quantitative method was used simple random sampling. Due to lack of previous such studies showing the proportion of parents /caretaker's of children with HIV/AIDS ART services and to achieve a maximum sample size. The following assumptions were made: proportion as 50% ($p = 0.5$) to yield maximum sample size, confidence level to be 95% and absolute precision or margin of error to be 5% ($d = 0.05$). This gives the final sample size of 384 and with 10% non response rate was added, then the final sample was became 422. In Similar way the sample size for clients' record reviewed was calculated by above method. Each exit interview was

estimated based number of actively receiving HAART during evaluation period. Whereas study units for the chart review were identified by using systematic sampling. The first sample was selected randomly by using random number generated by Ms-excel.

For qualitative method selection of participant was employed based on level and role of participants. Key informants were selected based on closeness and sensitiveness to the program activities. These were HF director, department director, and pediatrics ART staffs. This type of selection provides rich data collection for the study. The way of selection was described on the above table 3.

6.4 Study (evaluation) Design

The evaluation used a cross-sectional based multiple case study design. The design is used when a holistic, in-depth investigation is needed, rather than using large samples and following a rigid protocol to examine a limited number of variables. Case study methods involve an in-depth examination of a single instance or event. [17]Case facilities were selected depending on their difference of settings. First, two health facilities were selected. Secondly, in each health facilities required number of study participants and patient charts were identified through cross-sectional design.

6.5 Data Collection Methods

To answer the evaluation questions, different data collection methods were used These are: Observation of counseling and treatment sessions and overall ART site activities, Expert interview with Hospital director, Department head, physicians, Nurse, & councilors, Chart review. Data collection method was summarized in template 3 and 4.

6.5.1 Client Exit Interview: The Client's perception about the service was explored after treatment & counseling sessions. Each unit of study site (unit of analysis) had proportionate sample size depending on number of children enrolled for the treatment (see table 4). All Parents or Care takers of children, who visited the clinic for at least second time, were interviewed until the sample size fulfills with in data collection period.

6.5.2 Chart review: Each unit of study site (unit of analysis) had proportionate sample size depending on number of children enrolled for the treatment (see table 4).Charts were reviewed patients enrolled for the past 6 month and up to three years.

6.5.3 Observation of Inventory resource and activities: availability of human power and material resource was observed by observational checklist. Inventory checklist assessed level and number of professionals, General infrastructure & Equipment/supplies, Laboratory facilities and services, comprehensive HIV care, and supply of drugs. Pediatric ART service provider (physicians, Nurse, Pharmacist, councilor) interaction with patient was observed. Each unit of study site (unit of analysis) had proportionate sample size depending on number of children enrolled for the treatment (see table 4).

6.5.4 Key informant: interview used unstructured and In-depth questions and 10 key informants were interviewed.

Table4. Evaluation method and study sample

Evaluation Question	Population	Activity	Study site and Sample size	Pediatrics ART site selected	Exit interview	Observation of counseling session	Client Record review	Expert Interview
Is there adequate Human resource, drug, infrastructure and equipment is available? If not why?	Pediatrics ART service site	Observation(Inventory checklist)	2 selected Pediatrics ART service providers	Zewditu Hospital	272 clients	6 sessions	246 records	1 Hospital director, 1 Department head, 1 physicians, 1 Nurse, and 1 councilors
Is the treatment and counseling session according to the guideline? If not why?	Counselors and treatment provider	Observation checklist, record and document review	physicians, Nurse, and councilors related to treatment and counseling process	WWO-HF	150 clients	4 sessions	140 records	1 Hospital director, 1 Department head, 1 physicians, 1 Nurse, and 1 councilors
Is the pediatric service site accommodating the client needs? If not why?	Parents or Care takers of HIV/AIDS children	Client exit interview,	422		422 clients	10 sessions	386 records	10

6.6 Data collection

Data collection was done by four health professionals (two ART trained nurses for each HF) and two supervisors were selected from other pediatrics ART providing HFs and trained. Data collection tools utilized the followings type:-

- Structured questionnaires for client exit interview. (Appendix D)
- Observation checklist (appendix E).
- Client's record and document review guideline adapted and used.(Appendix B, Appendix C1, C2).
- For In-depth interview by principal investigator. (Appendix F)

6.7 Data Analysis

This evaluation implemented different types of data (qualitative and quantitative). Evaluation also used comparison of the different data tools. The collected data were summarized to answer the evaluation questions. Mixed data can yield richer, more valid, and more reliable findings than evaluations based on either the qualitative or quantitative method alone.

Quantitative data were analyzed using SPSS for windows version 16. The findings were presented by frequency tables, graphs and two by two tables. Means and proportions used for the purpose of comparison.

Qualitative data were coded based on major themes which align with the objectives of the study. Then the data were transcribed, summarized, and presented in major themes using verbatim. Information obtained from different sources was triangulated to validate the implementation process of the program.

During EA a discussion had been held with the regional health bureau, AA-HAPCO, WWO-HF (NGO), Hospital directors & experts and other major stakeholders about the indicators to be used as a measure of pediatrics ART service. The panel was responsible to assign weights for each indicator to develop scales to measure each dimension of Access & Compliance measurement. This process was conducted using indicator level relevance matrix in **Appendix A**. Judgment was made on the dimension of Access (availability, & accommodation) and compliance sub dimension were distributed to

each indicator. Finally, the overall quality scale were graduated into categories as "excellent", "very good", "good", "fair" and "critical" quality levels.

Parent's/ caretaker's satisfaction level was estimated for fifteen variables under three indicators of accommodation dimension. Accommodation dimension was measured by aggregating variables under each indicator.

6.8 Report Writing and Dissemination Plans

Dissemination of findings is important step in the evaluation process because stakeholders should use the evaluation findings timely to take corrective action. The final evaluation report will be presented to Jimma University and valuable comments will be taken. In addition, copy of the final report will be disseminated to all stakeholders, Jimma University and other interested bodies.

6.9 Ethical issues

Ethical clearance was taken from Ethical Clearance Committee of the Faculty of Public Health, Jimma University. A written permission was obtained from Addis Ababa Regional Health bureaus. Interviewers were trained on how to handle sensitive and emotional issues and on the importance of keeping confidentiality and anonymity. Verbal consent was obtained from the hospital's medical director and from all relevant department heads of the hospital. Records were identified only by patient chart numbers; no patient or health care provider names were entered in the data record.

The consent form was written in Amharic. It was read to those persons who are illiterate or passed to those who can read and then signed. The purpose of the interview was explained to all participants. During Observation session the staffs verbal consent was received and principal investigator had clothed gown to minimize the client confidentiality bias on the process of observation.

Confidentiality: No participant were identified by name, filled questionnaires were stored and data was secured by proper back up-system and no document thought confidential was collected or photocopied to ensure confidentiality

Chapter7. Results

Result part depicts the findings of resource inventory, patient record/chart review, parents/care givers and children satisfaction rate, observation of patient - provider interaction and expert in-depth interview. This section also portrays the analysis of judgment matrix in availability, compliance, and accommodation dimensions. Finally, it conclude with judgment of both program based on dimensions.

7.1Availability or Inputs of Human and Material resource in health facilities

7.1.1 Inputs of Human resource

ZMH had twenty general practitioners and three pediatricians. However, one permanent general practitioner was allocated at pediatrics ART department. Pediatricians were usually consulted in complicated cases. Two nurses were assigned for pediatrics ART from one hundred seventy six nurses working at ZMH. The trained ART nurses were working at treatment and counseling service area. The guide line recommends that ART trained nurses can provide counseling service in human resource limited settings.

WWO-AHF is a special family clinic founded by nongovernmental organization. It had two pediatricians, one general practitioner, five nurses, and one councilor. This NGO does not provide X-ray service at the facility.

The outsized number of Health Professionals at ZMH due to that the facility is providing other services besides the pediatrics ART. In generally, ZMH is General Hospital and also specialized by PMTCT service than other governmental hospitals.

Table below give details about training of ART of health professionals and other paramedical staff.

Table.5 Availability of trained Health professionals on pediatric ART clinic

Category	**Recommended Health Professionals and support staffs**	**ZMH**		**WWO-AHF**	
		No of Permanent staffs	No of trained on ART	No of Permanent staffs	No of trained on ART
General practitioner	2	11	1	1	1
Pediatrician	1	3	2	2	1
Health officer	1	0	0	0	0
Nurse	2	2	2	1	1
Councilor Nurse	1	0	0	1	1
Pharmacy tech./pharmacist	2	5	4	2	1
Lab. technician	2	6	2	3	1
X- ray technician	1	1	NA	0	0
data clerk	2	5	5	1	1
Total	13	23	16	11	7

NA= Training on ART is not expected to be taken for Health professions

7.1.2 Infrastructure and Material resources

ZMH pediatric ART had two rooms separated by a corridor. The first room is for physician to perform physical examination and treatment. The second room is for nurses to carry out anthropometric measurement, registration, counseling service and, patient card storage. The length and width of two rooms is approximately three by two meter. Both rooms were packed out by materials and equipments. The rooms were situated underground and had no adequate light entrance. Only one room had window but blocked by cupboard of patient cards.

There is no drug stock out in drug dispensary except for second line ARV drug (Didanosine and Prednisolone) for one month. Pharmacy department had no monitoring and evaluation/management information system report forms, lockable drawer, and receiving voucher.

The second health facility, WWO-AHF, had six rooms providing pediatrics ART service. The first three rooms serves for registration, treatment, and counseling service. There are two waiting rooms, one for child to play and the other for adults. The child play room had dolls, games, three types of sleeping bed depending on their ages, and furniture. The phlebotomy room is used only for blood drawing of patients. This room privilege in confidentiality of HIV/AIDS patients. The following table describes availability of infrastructures in both health facilities.

Table6. Infrastructure description of both health facilities

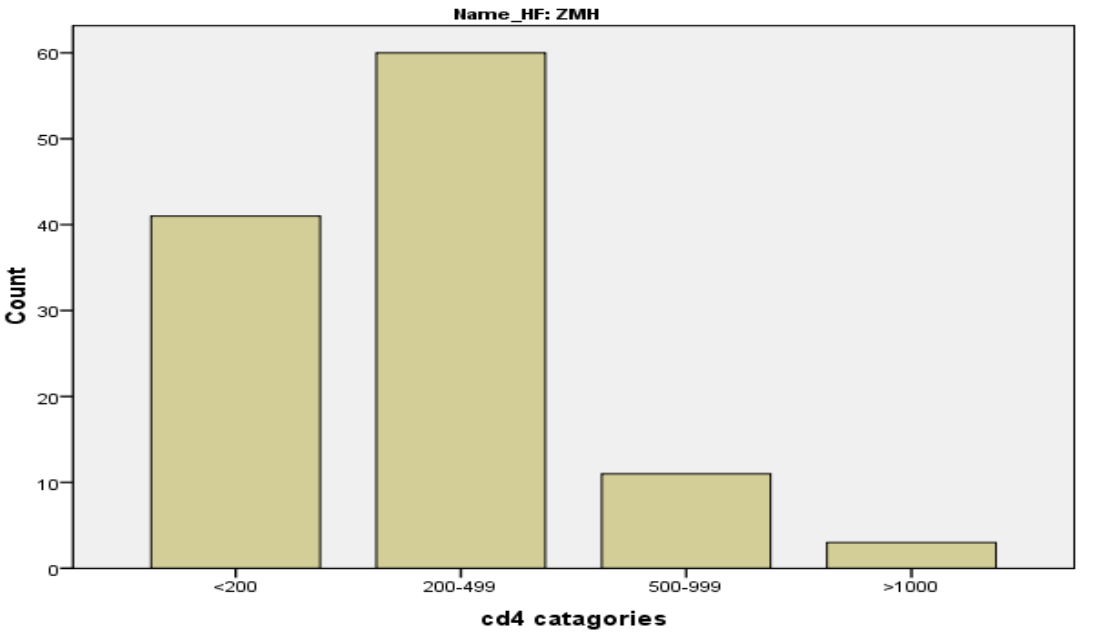
Items of infrastructure	Infrastructure in ZMH		Infrastructure in WWO-AHF	
	Present	Number	Present	Number
Waiting room	Yes	1	Yes	2
Counseling room	Yes	1	Yes	2
On-site pharmacy Secure storage space	Yes	2	Yes	1
pharmacy Private counseling room or space	Yes	1	Yes	1
Specimen collection area	Yes	1	Yes	1
Lab. additional room	Yes	2	Yes	1
Examination room	Yes	1	Yes	1
Treatment room	Yes	1	Yes	1
In patient room	Yes	6	No	0
Lab room	Yes	1	Yes	1

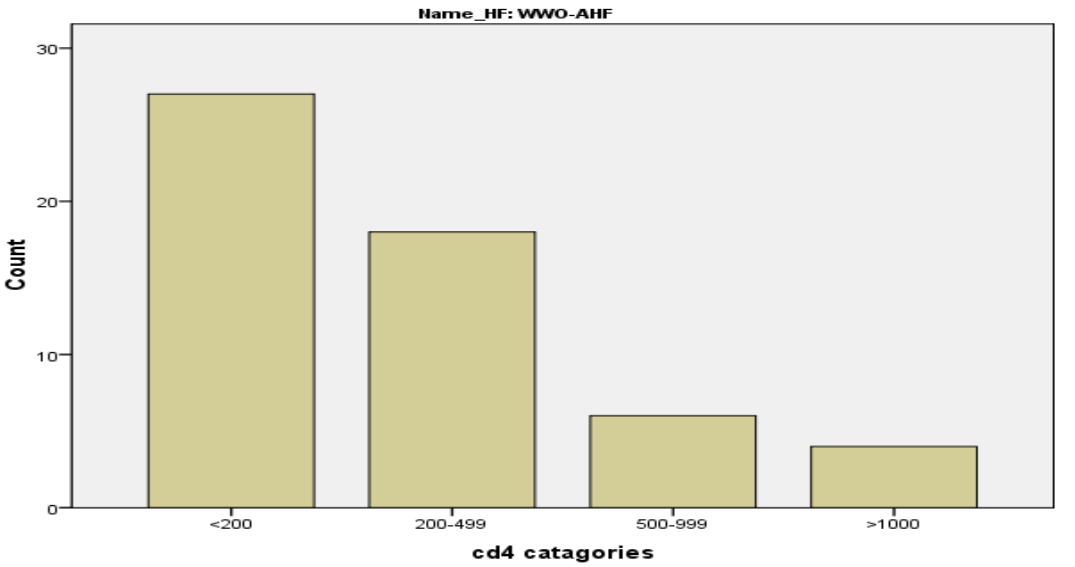
7.2 Compliance to guideline and activities through record review

7.2.1 Compliance to guideline of CD4 count and ART eligibility

Children were put on ART based on the national guidelines. According to World Health Organization (WHO) immunological and clinical eligibility criteria and using WHO-recommended first line regimens. Infants and children with HIV/AIDS will receive ART when they was diagnosed as severely immune-deficient. Immunologic marker was used to classify eligibility criteria for infants and children. Children who were medically eligible allowed to start ART. They have been clinically diagnosed using WHO clinical staging and immunologically diagnosed using CD4 count or a combination of both according to program guidelines. The following bar chart describes CD4 count of children were receiving HIV/AIDS care and treatment at the facility.

Fig6. Bar chart of CD4 count by four categories for each HF





ART eligibility criteria will classify children's age into three categories depending on their immunologic marker based on WHO clinical staging. On average eligible children on ART were 113(75.2%) of ZMH and 97(90.3%) of WWO-AHF. Less numbers of young infants were diagnosed and treated for ART in ZMH. Poor compliance to guideline was major factor for poor eligibility of young infants.

Both HF were analyzed for the level of ART adherence of children. ZMH children receiving ARV drug above 95% scoring adherence level was 94.9%, similarly WWO-AHF children adherence level was about 96.7%.

7.2.2 Compliance to guideline of Cotrimoxazole prophylactic therapy (CPT)

CPT recommended children were compared to children receiving CPT. All HIV-infected children <12 months regardless of CD4 value were five children recommended from whom receiving Cotrimoxazole were four(80%) children. HIV-infected children aged 1-4 years old with CD4 <25% were 46 children recommended from whom receiving Cotrimoxazole were 39(84.8%). HIV-infected children >5 years old with CD4 <350 were 122 children recommended from whom receiving Cotrimoxazole were 98(80.3%). On average CPT eligible HIV-infected children receiving Cotrimoxazole were 91(79.1%) from ZMH and 50(81.6%) from WWO-AHF.

7.2.3 Characteristics of study population in record review

Patient records reviewed were 246(64.5%) in ZMH and 140(36.5%) in WWO-AHF. All patients charts reviewed were ART of 258 children and Pre-ART of 126 children. The mean age of children on HIV/AIDS care and treatment was 7.53 years old with SD 3.93.

Table.7 Socio-demographic Characteristics of children on ART

Variables		ZMH		WWO-AHF		Total	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Sex	Female	113	46.70	63	45.00	178	46.10
	Male	131	53.30	77	55.00	208	53.90
	Total	244	100.00	140	100.00	384	100.00
Age	<18 months	7	2.80	11	7.90	18	4.70
	18-59 months	65	26.50	31	22.10	96	24.90
	5-14 years	172	70.80	98	70.00	272	70.40
	Total	244	100.00	140	100.00	384	100.00
Address in Addis Ababa Kifle Ketema	Yeka	64	26.80	87	62.10	153	39.60
	Bole	53	21.50	35	25.00	88	22.80
	Arada	43	17.50	9	6.40	52	13.50
	Kirkos	27	11.00	8	5.70	35	9.00
	Gulele	23	9.30	-	-	23	5.90
	Kolfe	8	3.30	-	-	8	2.00
	Others	26	10.60	1	0.70	27	7.00
	Total	244	100	140	100	384	100

7.2.4 Completeness of pediatric Intake Forms

7.2.4.1 Patient Identification

244 (100%) Intake forms were filled children unique ART number, name (child, father and mother), sex and age in accurate and complete manner in ZMH. Only 149(61%) intake forms filled mother's confidentiality code number for PMTCT follow up. Patient referral (link) information from PMTCT program was 167(68.4 %).

In other side, 140 (100%) Intake forms were filled children unique ART number, name (child, father and mother), sex and age in accurate and complete manner in WWO-AHF. Only 95(67.9%) intake forms filled mother's confidentiality code number for PMTCT follow up. Patient referral (link) information from PMTCT program was 111(79.3%).

7.2.4.2 Completeness for Clinical review of Intake Form

Clinical review assessed for any symptom and signs of child illness in ZMH HF. 223 (91.4%) intake forms filled symptom and general appearance. 196 (80.3%) intake forms described system findings of children's health status.

Similarly, in WWO-AHF clinical review assessed for any symptom and signs of child illness. 131 (91.7%) intake forms filled symptom and general appearance. 116(82.8%) intake forms described system findings of children's health status.

7.2.5 Record completeness of pediatric HIV care/ART follow up form

7.2.5.1 Patient Identification

Patient identification information is basic part of follow up records of patient. A total of 384(100%) charts of infants and children were filled child's unique ART number, sex and age.

7.2.5.2 Pediatric follow up card

During ART follow up children will be assessed for anthropometric measurement, WHO stage, TB, OI, Cotrimoxazole and ARV drug treatment and adherence. The following table shows the percentage of completed fields of follow up cards. On average record completeness of pediatric ART follow up card was 211(86%) of ZMH and 129(92.4%) of WWO-AHF. Table below displays completeness of pediatric ART follow up card in each HF.

Table8. Record completeness of both health facilities pediatric ART follow up card

Sr.No.	Items in field	ZMH		WWO-AHF		Total	
		frequency	percentage	frequency	percentage	frequency	percentage
1.	Date of treatment	244.00	100.00	140.00	100.00	384.00	100.00
2.	Months on ART	225.00	91.50	138.00	98.60	363.00	94.00
3.	Weight of child	221.00	89.80	137.00	97.90	358.00	92.70
4.	Height of child	213.00	86.60	132.00	94.30	345.00	89.40
5.	WHO stage	235.00	95.50	136.00	97.10	371.00	96.20
6.	TB screen	143.00	58.10	107.00	76.40	250.00	64.80
7.	OI's treatment	156.00	63.40	103.00	73.60	259.00	67.10
8.	Cotrimoxazole prophylaxis	189.00	76.80	125.00	89.30	314.00	81.30
9.	ARV drugs	240.00	97.60	1390	99.20	379.00	98.20
10.	CD4 count	215.00	87.40	124.00	88.60	339.00	87.80
11.	Next visit	242.00	98.40	140.00	100.00	382.00	99.00
12.	**Average**	**211.00**	**86.00**	**129.00**	**92.40**	**340.00**	**88.10**

Except date of treatment, all other fields were incomplete follow up record. TB screen result left unfilled charts were 143(58.1%) of ZMH and 107(76.4%) of WWO-AHF. Others incomplete recording is highly observed fields were OI treatment and CPT. Patient follow up chart are basic part for continuity of treatment and quality of care. According to the ART guideline patient chart should be filled in accurate and complete manner.[1]

7.2.5.3 Record completeness for pediatric HIV Care/ART transfer and referral form

Transfer and referral forms should be filled information of children's HIV Care/ART status in accurate and complete manner. Ten variables from form field prepared to check the completeness of transfer and referral forms. A total of 36 transfer and referral form were reviewed in both health facilities. Small number of referral forms reviewed, because few numbers of patients referred from ZMH and WWO-AHF in the study period. Percentage of small numbers don't account for judgment of the program. On average

ZMH record completeness of transfer and referral forms was 26(70.4%). It is clearly described in the following table with frequency and percentage at each HF.

Table9. Description for completeness of referral/transfer pediatric ART form

Sr. No.	Items in field of referral form	ZMH		WWO-AHF		Total	
		frequency	percentage	frequency	percentage	frequency	percentage
1	Referring and referred facility Name	27.0	100.0	9.0	100.0	36.0	100.0
2	Child's and parents or Caretaker's full Name and Address	25.0	92.6	9.0	100.0	34.0	94.4
3	Reason for eligibility to ART	19.0	70.4	7.0	77.8	26.0	72.2
4	Date started ART and current regimen dose	26.0	96.3	9.0	100.0	35.0	97.2
5	Reason for change of ART	10.0	37.0	4.0	44.4	14.0	38.9
6	Level of ART adherence and current medication	13.0	48.1	8.0	88.9	21.0	58.3
7	Past ARV use of Mother for PMTCT	6.0	22.2	3.0	33.3	9.0	25.0
8	Lab. Data and findings	23.0	85.2	7.0	77.8	30.0	83.3
9	Referring clinicians Name and Address	26.0	96.3	9.0	100.0	35.0	97.2
10	**Average**	**19.0**	**70.4**	**7.0**	**77.8**	**26.0**	**72.2**

Reason for eligibility to ART was left unfilled for 19 forms out of 27 in ZMH and 7 forms out of 9 in WWO-AHF. Other most important fields unfilled, described on the above table, were reason for eligibility to ART, Level of ART adherence and current medication, past ARV use of mother for PMTCT. According to ART guideline referring health facility should send complete and accurate letter. [1]

7.3 Survey of Parent's or Caretaker's Perception on Pediatrics ART service

7.3.1 Proportion of two study sites and response rate

A total of 376 of Parent's/ caretakers responded to questionnaires of 392 Parent's/ caretaker's of children attended both HF. This makes a non response rate of 4.1%. A subtotal of parent's or caretakers responded to the questionnaire from ZMH is 224 and the rest respondents from WWO-AHF. All of respondents' children were on ART.

7.3.2 Socio-demographic characteristics of Parent's /caretakers and children

The mean age of HIV/AIDS children on ART was 7.3 years (SD =2.2 years). 62.2% of HIV/AIDS children are male. The mean age of Parent's or caretakers was 27.5 years (SD=12.7). 48.3% of respondents were biological parents (mother or father). Female respondents predominantly constitute 271(72.1%), majority of them orthodox followers 176(46.8%), and married 206(54.8%).The detail description of socio-demographic status is presented in the following table.

Table10. Background information of Parent's/ caretakers and index children asked by exit interview

Sr. no	Variables	Category	Frequency	Percentage
1	Sex of child (n=376)	Male Female	163 213	43.4 56.6
2.	Age of child (n=376)	<18 months 18-59 months 5-14 years	17 105 254	4.5 27.9 67.6
3.	Sex of respondent (n=376)	Male Female	105 271	27.9 72.1
4.	Age of respondents (n=376)	15-19 Years 20-24 Years 25-29 Years 30-34 Years 35-39 Years 40-44years 45and Above	34 106 118 67 35 11 5	9.0 28.3 31.5 17.7 9.2 3.0 1.3
5.	Marital status of respondent (n=374)	Married Single Widowed Divorced /Separated	206 26 101 41	54.8 6.9 27.4 10.9
6.	Educational status of the respondent (n=369)	Illiterate Can read/write 1-4 grade 5-8 grade 9-12 grade Above 12 grade	44 41 97 78 62 32	11.7 10.9 27.7 20.7 16.5 8.5
7.	Religion status	Orthodox Muslim	176 111	46.8 29.5

	(n=376)	Protestant Catholic Other	46 31 12	12.2 8.2 3.2
8.	Occupation of the respondents (n=368)	Government employee Trader/Merchant Student House wife Sex worker House maid Other	89 98 24 103 6 28 10	23.7 28.2 6.4 27.4 1.6 7.4 2.3

7.3.3 Satisfaction rate of Parent's /caretakers and children

Based on three indicators average satisfaction rate of Parent's/ caretakers were satisfied 190(84.7 %) respondents in ZMH and 134 (87.9%) in WWO-AHF. Satisfaction rate of Parents/ caretakers of HIV/AIDS children were described for each variable in the following table.

Table11. Analysis of patient satisfaction rate as Accommodation Dimension

Indicators	Questions directly related to the indicators	Respondent satisfied in ZMH		Respondent satisfied in WWO-AHF		Total respondent satisfied	
		frequency	Proportion	frequency	proportion	frequency	proportion
Proportion of Parents / Care takers of children with HIV/AIDS satisfied by the Pediatrics diagnosis and treatment service	ARV and OI drugs are always available	193	86.20	134	88.20	327	87.00
	Laboratory services are always available	178	79.50	136	89.50	314	83.50
	Adequate information given by physicians about your child's diagnosis.	197	87.90	145	95.40	342	91.00
	Adequate information given by physicians about your child's treatment	204	91.10	143	94.1	347	92.3
	My child is improving because of the care I received.	185	82.6	124	81.6	309	82.2
	Subtotal	*191*	*85.3*	*136*	*89.7*	*328*	*87.2*

Proportion of Parents /Care takers children with HIV/AIDS satisfied by waiting time, area and distance of health facility	cleanliness of waiting room	164	73.20	143	94.10	307	81.60
	The clinic is easily accessible in distance for me.	153	68.30	84	55.30	237	63.00
	Adequate time spent with the physicians during examination	211	94.20	146	96.10	357	94.90
	The appropriate waiting time in this HF.	191	85.30	139	91.00	330	87.80
	The waiting area is comfortable for me and my child to wait	149	66.50	145	95.40	294	78.20
	Subtotal average	*173*	*77.50*	*131*	*86.40*	*304*	*80.90*
Proportion of Parents /Care takers children with HIV/AIDS satisfied by provider keeping privacy and communication skill.	I can have unscheduled visits easily if I feel that I should.	174	77.70	112	73.70	286	76.10
	The staffs approach towards you and child is good.	213	95.10	141	92.80	354	94.10
	The physician keeping your privacy and child's during examination said yes	221	98.70	133	87.50	354	94.10
	Providers allow me to talk what my child feels is important said yes.	214	95.50	148	97.4	362	96.30
	Subtotal average	*205*	*91.70*	*134*	*87.80*	*339*	*90.20*
	Total average	**190**	**84.70**	**134**	**87.90**	**324**	**86.20**

7.4 Observation of Patient –Provider interaction

Both health facilities were observed for compliance of pediatric ART service. Six sessions observed in ZMH and the rest four sessions observed in WWO-AHF.

During data collection, six sessions were observed of physician-client interaction in ZMH. During observation all six Parents /Care takers children with HIV/AIDS had been asked for any health problem. However physician assessed physical status for three children. In all session physician used simple and understandable words for communication. Similarly six nurse-client interaction sessions were observed. Only one child was not assessed for anthropometric measurement. All children scheduled for follow up visit. In all session nurse communicated simple and understandable words with patient.

Nurses were responsible for counseling and adherence service. Counseling session is not done in confidential room, because counseling room was not available. Hospital had no separate pharmacy room for counseling. But it had separate room for ARV drugs dispensary. All clients received checked and complete drug. All parents/caregiver were instructed on dosage and frequency of taking drugs.

In the second HF (WWO-AHF) four sessions observed of physician-client interaction. During observation, all four Parents /Care takers children with HIV/AIDS were asked for any health problem. However physician assessed physical status for three children. In all session physician used simple and understandable words for communication. Nurse-client interaction sessions were observed. All children were assessed for anthropometric measurements. All children were scheduled for follow up visit. In all session nurse communicated simple and understandable words with patient.

Counselor nurses were responsible for counseling and adherence service .Two children's parents had been counseled on ARV drugs adherence. Pharmacy technician had separate room for counseling of parents/ caretakers in WWO-AHF. All parents/caregiver were instructed on dosage and frequency of taking drugs.

7.5 In-depth interview results

The themes of in-depth interview were presented at organizational level and position. Ten in-depth interviews were done in both HF (ZMH and WWO-AHF). Each health facilities had five interviews with medical director, physicians, councilor nurse, pharmacist, and laboratory technologist. The interview result was transcribed in major themes and presented in the following manner.

7.5.1 Human and material resource availability

ZMH medical director reported of high attrition rate for physician, ART trained nurses and specialists. One of Nurse said:" working at the pediatric ART and being able to provide care for needy children gives me great satisfaction. We have large patient load in the clinic. The pediatricians are very busy with several tasks. Sometimes physicians are unavailable. Therefore, I do all the primary work like laboratory investigation request and anthropometric measurement and prepare them for doctor's final decision."

ZMH Medical doctor also said:" children visit rate is rapidly increasing that more than to comprehend by one physician. I told to Medical director to assign additional physician, but he said that hospital had shortage of physician."

WWO-AHF Country medical director claimed that inadequate physician and planned to hire additional physician.

7.5.2 Benefits of additional or related service

Majority of the ZMH staffs believes related service like financial and psychosocial service should be provided. Some emphasized on educational support. Whereas, majority of the WWO-AHF staffs believes related service like financial and psychosocial service should be provided. One of interviewed nurses suggested that existing services might be enough.

7.5.3 Factors for Program success and failure

Major theme suggested by the ZMH staffs for program success are inter-collaboration of regional HIV PCR diagnostic service, new fixed ARV drug availability, frequent technical and material support by JHU to ZMH. Major themes suggested by the staffs for program failure were dropout of children from ART, loss of parents of children on ART especially economical dependent parent loss, inadequate space and room in ZMH.

In other side, major theme suggested by the WWO-AHF staffs for program success are new fixed ARV drugs availability; inter collaboration of orphanage sites, and uninterrupted supply of nutrition. Major themes suggested by the staffs for program failure were dropout of children from ART, poor coordination of regional HIV PCR diagnostic service with WWO-AHF, and poor referral linkage.

7.5.4 The program targeted problems and challenges

Majority of ZMH interviewee responded that program targeted on decreasing early mortality and morbidity of children; improve family-centered care, timely immunization service, and prophylactic treatment of Opportunistic infections in HIV/AIDS children.

In the second HF, majority of WWO-AHF interviewee responded that program targeted on decreasing early mortality and morbidity of children; improve family-centered care, timely immunization service, and prophylactic treatment of Opportunistic infections in HIV/AIDS children.

7.5.5Level of care in pediatrics ART relative to adult ART

Both HFs had different background beginning pediatric and adult ART service.

In ZMH was established first adult ART service then decentralized to pediatric ART. Majority in ZMH said adult ART in better condition than pediatric ART. Thematic reasons were having prolonged service time, high number adult using ART than children, high number of health professionals and suitable infrastructure and waiting area.

First WWO-AHF begun with pediatric ART service and then included adult ART service. Because the guideline recommends pediatric ART should be family-centered care where parents of the children can receive similar care. Majority in WWO-AHF said pediatric ART service in better condition than adult. Thematic reason was early establishment of Pediatric ART service, high number of children using ART relative to adult and housing structure is suitable providing nutritional supplementation, play rooms with dolls and different games.

7.6Analysis and Judgment Matrix

The judgment matrix synthesizes all available information aiming to characterize the implementation degree. Parameters used to classify the implementation level are presented and they were agreed upon with the involved stakeholders

Judgment Parameter for the Overall Implementation

Table 12.Judgment Parameter for the Overall Implementation of the Pediatric ART Program in ZMH and WWO-AHF

Percentage achieved	Program Implementation level
85% above	Successfully implemented
70% to 85%	Well implemented
55% to 69	Implemented
40% to 54%	Partially implemented
< 40%	critical implementation level

7.6.1Analysis of Availability Dimension (Indicator 1-4) of material resource

Table13. Analysis of availability dimension by judgment matrix

Sub-Dimension	Sub-Indicators	Expected point	Observed point in ZMH	Observed point in WWO-AHF
Indicator 1 Proportion of latest national pediatrics ART guideline and reporting format available in Pediatric ART clinic	Availability of guideline of pediatrics HIV care and treatment of 2007 G.C (at least one)	1	1	1
	Availability of monthly reporting format	1	1	1
	Availability of Quarterly reporting format	1	0	1
	Sub-Total point	3	2	3
	Proportion of point in HF	-	66.7%	100%
Indicator 2 Proportion of uninterrupted supply of Drugs (ARV	Availability of five first line ARV drug regimen	5	5	4
	Availability of five second line ARV drug regimen	5	4	5

regimens and cotrimoxazole) in Pharmacy for the past three months	Availability of cotrimoxazole drug regimen	1	1	1
	Sub-Total point	11	10	10
	Proportion of point in HF	-	90.9%	90.9%
Indicator 3 Proportion of Laboratory facilities having CD4 machine and essential laboratory service	CD4 machine	3	3	3
	CBC	1	1	1
	LFT	2	2	2
	Hematology analyzer	1	1	1
	microscope	1	1	1
	X-ray	1	1	0
	Sub-Total point	9	9	8
	Proportion of point in HF	-	100%	88.9%
Indicator 4 Proportion of pediatric ART clinic having Model of comprehensive HIV care and leadership.	OI treatment service	1	1	1
	Nutritional service	1	1	1
	TB treatment service	1	1	0
	Immunization service	1	1	1
	Inpatient service	1	1	0
	Counseling service	1	1	1
	Psychosocial support	1	0	0
	Palliative care	1	1	0
	Leadership and vision	1	0	1
	Sub-Total point	9	7	5
	Proportion of point in HF	-	77.8%	55.6%

N.B=Proportion of Trained ART Health personnel's in ZMH = 11/18 .100% = **61.1%** and Proportion of Trained ART Health personnel's in WWO-AHF= 6/10 .100% = **60.1%**

Table14. Analysis of Judgment Matrix for Availability Dimension in ZMH

Indicator	N	Weight given	Result	%	Classification
Proportion of latest national pediatrics ART guideline and reporting format available in Pediatric ART clinic.	3	10	7.50	75.00	> 85 = Excellent 70-85 = Very good 55-69 = good 40-54 = Fair < 40 = Critical
Proportion of uninterrupted supply of Drugs (ARV regimens and cotrimoxazole) in Pharmacy for the past three months.	10	15	13.64	90.90	
Proportion of Laboratory facilities having CD4 machine and essential laboratory service	9	10	10.00	100.00	
Proportion of pediatric ART clinic having Model of comprehensive HIV care and leadership.	7	10	7.80	77.80	
Proportion of Trained ART Health personnel's	11	20	12.22	61.10	
SUBTOTAL		55	51.16	93.00	

Table15. Analysis of Judgment Matrix for Availability Dimension in WWO-AHF

Indicator	N	Weight given	Result	%	Classification
Proportion of latest national pediatrics ART guideline and reporting format available in Pediatric ART clinic.	4	10	10.00	100.00	> 85 = Excellent 70-85 = Very good 55-69 = good 40-54 = Fair < 40 = Critical
Proportion of uninterrupted supply of Drugs (ARV regimens and cotrimoxazole) in Pharmacy for the past three months.	10	15	13.60	90.90	
Proportion of Laboratory facilities having CD4 machine and essential laboratory service	8	10	8.90	88.90	
Proportion of pediatric ART clinic having Model of comprehensive HIV care and leadership.	5	10	5.60	55.60	
Proportion of Trained ART Health personnel's	6	20	12.00	60.10	
SUBTOTAL	33	55	50.10	91.20	

7.6.2 Analysis of Compliance Dimension

Table16. Analysis of Judgment Matrix for Compliance Dimension in ZMH

Indicator	N	Weight given	Result	%	**Judgment parameters**
Proportion of HIV/AIDS children monitored CD4 count or % at least six month interval during treatment	181	10	7.40	73.60	> 85 = Excellent 70-85 = Very good 55-69 = good 40-54 = Fair < 40 = Critical
Proportion of HIV/AIDS children got Cotrimoxazole who are eligible according to the guideline	91	10	9.30	92.60	
Proportion of HIV/AIDS children eligible for ARV who are currently on ARV according to guideline	113	10	7.50	75.20	
Proportion of referral forms filled correctly according to guide line in pediatric ART site	19	5	3.50	70.40	
Percentage of pediatric HIV care/ART follow up card filled correctly according to guide line	211	20	17.20	86.00	
SUBTOTAL		55	44.90	81.60	

Table17. Analysis of Judgment Matrix for Compliance Dimension in WWO-AHF

Indicator	N	Weight given	Result	%	**Judgment parameters**
Proportion of HIV/AIDS children monitored CD4 count or % at least six month interval during treatment	146	10	9.60	96.30	> 85 = Excellent 70-85 = Very good 55-69 = good 40-54 = Fair < 40 = Critical
Proportion of HIV/AIDS children got Cotrimoxazole who are eligible according to the guideline	50	10	9.50	94.80	
Proportion of HIV/AIDS children eligible for ARV who are currently on ARV according to guideline	97	10	9.00	90.30	
Proportion of referral forms filled correctly according to guide line in pediatric ART site	7	5	3.90	77.80	
Percentage of pediatric HIV care/ART follow up card filled correctly according to guide line	129	20	18.50	92.40	
SUBTOTAL		55	50.48	91.80	

7.5.3 Analysis of Accommodation Dimension

Table18. Analysis of Judgment Matrix for Accommodation Dimension in ZMH

Indicator	N	Weight given	Result	%	**Judgment parameters**
Proportion of Parents / Care takers of HIV/AIDS children satisfied by the Pediatrics diagnosis and treatment service approach	191	20	17.00	85.30	> 85 = Excellent 70-85 = Very good 55-69 = good 40-54 = Fair < 40 = Critical
Proportion of Parents /Care takers of HIV/AIDS children satisfied by waiting time, area and distance of HF	173	10	7.80	77.50	
Proportion of Parents /Care takers of HIV/AIDS children satisfied by provider keeping privacy and communication skill.	205	10	9.20	91.70	
SUBTOTAL		40	34.00	85.00	
TOTAL		150	130.00	86.70	

Table19. Analysis of Judgment Matrix for Accommodation Dimension in WWO-AHF

Indicator	N	Weight given	Result	%	**Judgment parameters**
Proportion of Parents / Care takers of HIV/AIDS children satisfied by the Pediatrics diagnosis and treatment service	136	20	17.90	89.70	> 85 = Excellent 70-85 = Very good 55-69 = good 40-54 = Fair < 40 = Critical
Proportion of Parents /Care takers of HIV/AIDS children satisfied by waiting time, area and distance of HF	131	10	8.60	86.40	
Proportion of Parents /Care takers of HIV/AIDS children satisfied by provider keeping privacy and communication skill.	134	10	8.80	87.80	
SUBTOTAL		40	35.34	88.40	
TOTAL		150	136.00	90.60	

CHAPTER8. DISCUSION

WWO-AHF clinic has adequate room than ZMH for Pediatric ART service. ZMH has two crowded room with inadequate light and ventilation. It is important for health of HIV/AIDS children to have adequate light and ventilation to prevent TB infection. In other hand ZMH did not have separate room for counseling and examination. According to Ethiopia ART guideline, every ART providing health facilities should have private counseling and examination room.[18, 19]

World Health Organization recognizes the need to strengthen health systems, including human resources capacity and monitoring capabilities, with a view to maximizing the quality and long-term benefits of therapy. [18] In both health facilities observed inadequate physician (general practitioner) were available. A shortage of physician is common in all African countries. In addition, the proportion ART trained health professionals found was 60.1 % in WWO-AHF and 61.1 % in ZMH. According to Ethiopia ART guideline all health professionals working on ART service should be trained.[1, 19]

During review of patient chart and in-depth interview, HIV/AIDS children linked from self referred was nearly nil. Thus, indicates complexity of HIV diagnosis in children and low detection rate at community level. HIV diagnostic service should be integrated with nongovernmental and private health facilities. Early diagnosis insures early care and treatment of HIV/AIDS children. Early care and treatment will cause good impact on quality of lives and school attendance for HIV/AIDS children.[2, 3]

One of indicator for compliance was HIV/AIDS children eligible for ARV who are currently on ARV according to guideline. It is also important to measure the immunological parameters of the HIV-infected child and assess the severity of HIV-related immunodeficiency in order to guide decision-making on the initiation of ART to comply with guideline. The determination of immune-deficiency based on CD4 lymphocyte count should be age-specific, because normal CD4 values are age dependent, with the youngest infants and children having the highest counts.[2, 21]

On average eligible children on ART were 113(75.2%) of ZMH and 97(90.3%) of WWO-AHF. Less numbers of young infants were diagnosed and treated for ART in ZMH. Poor compliance to guideline was major factor for poor eligibility of young infants. According to Ethiopian ART guideline, all eligible children should receive ARV drugs. [1, 19]

Record completeness for patient chart and referral forms is crucial part for monitoring and evaluation of HIV infected children. Both HF was judged success full implementation level based on agreed criteria of indicators. Even though records needs to be complete regarding the guideline.[5]

The seven pages intake form, consisting of 25 fields per page on average and the follow-up form, consisting of 35 fields (some of which are optional) are used as sources of data. When focusing on important unfilled fields like WHO stage was 235(95.5%) of ZMH and 136(97.1%) of WWO-AHF, CPT was 189(76.8%) of ZMH and 125(89.3%) of WWO-AHF, and CD4 count was 215(87.4%) of ZMH and 124(88.6%) of WWO-AHF were valuable for care and treatment of children. Ethiopian ART guideline and WHO recommends complete recording of this important immunologic and treatment indicators.[2, 19]

On the other side completeness of referral/transfer forms were compared against the guideline. Most important fields on referral/transfer forms unfilled were reason for change of ART 10(37%) of ZMH and 4(44.4%) of WWO-AHF, level of ART adherence and current medication 13(48.1%) of ZMH and 8(88.1%) of WWO-AHF, and past ARV use of mother for PMTCT 6(22.2%) of ZMH and 3(33.3%) of WWO-AHF. The level of adherence is important for received HF to provide way of counseling, linking to psychosocial support, or to follow other strategies to non-adherent patients. Information about recent medication is vital to prevent adverse drug interaction. ARV drug exposed infants during PMTCT prophylaxis's are at risk of infection from a drug resistant virus.

Currently, there is insufficient evidence to recommend different regimens for this infants.[1]

Pediatric ART clinic having model of comprehensive HIV care is one part of indicator in availability dimension. Nutritional supplementation is component of comprehensive HIV care. Both health facilities provide nutritional supplementation. Especially, WWO-AHF provides plump nut for HIV infected children at each visit. Nutrition intervention can optimize the ARV intake and compliance of treatment. Nutrition improves quality of life and school attendance of HIV/AIDS children. [3, 20]

Nutritional supplementation has great impact on immunologic status of HIV/AIDS children growth seems to be one of the most sensitive indicators of disease progression in children with acquired immunodeficiency syndrome (AIDS). Anthropometric measurements are directly related with children nutritional status. Poor growth commonly precedes a decline in CD4_ T-cell count and the subsequent development of opportunistic infections.[22, 23]

Adherence to ARV drugs is vital part related with quality of care in HIV/AIDS children. In ART adherence level of more than 95% (missing no more than one dose per month) is required for patients to get the envisaged benefit. While analyzing the level of ART adherence above 95% scoring, in WWO-AHF is about 96.7% and ZMH is about 94.9%. Similar study done at Uganda demonstrated adherence level of children scored above 95% is 93.5% of patients.[22]

Poor adherence facilitates the development of drug resistant viruses. These viruses rapidly replicate, the treatment fails and the individual can no longer benefit from the therapy. Transmission of drug resistant virus in the community leads to a superimposed epidemic of drug resistant HIV. Therefore, it is crucial to support people on ART throughout their treatment. [1, 25] this findings runs contrary to suggestions that pediatric adherence is difficult because of drugs are tablet size, syrup palpability, and dependence on unreliable primary caregivers.

Client satisfaction is crucial part of health service utilization. Client satisfaction was assessed in fifteen variables and aggregated to three indicators. Client satisfaction was assessed as accommodation dimension. Because the word satisfaction has too many interest related to cultural, social, psychological, and environmental factors. Overall average satisfaction rate of respondent were estimated 84.7%of ZMH and 87.9 of WWO-AHF. However parents/care takers of HIV/AIDS children satisfied by waiting time, area and distance of HF in ZMH were 173(77.5%).

This evaluation thesis may be the first in assessing of pediatrics ART service in Ethiopia. These findings may contribute to a limited number of studies related to pediatrics ART service in developing countries, considering background and context of the study.

8.2 Limitation of the study

1. The quality of laboratorial test was not explored in this evaluation study.
2. During observation of ART Physician, nurse, councilors and pharmacy technicians may behave differently.
3. It is not possible to compare HF with different settings or background however case studies allow us to highlight the influence that these, settings and background, have in the implementation process. Clients' high satisfaction rate may be due to patient avoidance of compromising the health care service they may get.
4. Absence of similar studies in developing countries was created difficulty in contrasting the result.
5. Missing values on records may bias results.

CHAPTER9. CONCLUSION and RECOMMENDATIONS

9.1 CONCLUSION

All in all, the experience of this two HFs (ZMH and WWO-AHF HF) provided pediatric ART service with very good result. Based on agreed criteria both HFs judged as successful implementation of overall dimension of pediatric ART service.

ZMH was judged as excellent implementation level based on agreed criteria scoring overall dimension of 86.2%. Availability of trained health professionals, laboratory equipments and reagent resource, drugs, and infrastructure judged as excellent based on agreed criteria scoring of 91.6%. Compliance to guideline judged as very good based on agreed criteria scoring of 81.6%. Accommodation of pediatric ART service rated as very good scoring of 85%.

WO-AHF was judged as excellent implementation level based on agreed criteria scoring overall dimension of 90.6%. Availability of trained health professionals, laboratory equipments and reagent resource, drugs, and infrastructure judged as excellent based on agreed criteria scoring of 91.2%. Compliance to guideline judged as very good based on agreed criteria scoring of 91.8%. Accommodation of pediatric ART service to patient rated as very good scoring of 88.4%.

Most logistic and input materials are available, but there is shortage of ART trained health professionals and data clerks in both HF. Both ZMH and WWO-AHF were effective in provision of uninterrupted drug supply. However second line ARV drug were stock out for over one month. Based on the findings on compliance to guideline, both HF were judged successful. But few HIV/AIDS children eligible to CPT and ART were still neglected to receive treatment.

This evaluation report provides evidence of improvement of HIV/AIDS care and treatment in children using highly active antiretroviral therapy in both HF.

9.2 RECOMMENDATION

9.2.1Recommendation for ZMH

- Two separate rooms for counseling and patient examination in ZMH are highly required.
- Attention and supervision on the completeness of recording and reporting formats.
- Regular and frequent refreshing training on ART and also supportive supervision to Nurses specially on screening eligible children for ART and cotrimoxazole prophylactic therapy
- Uninterrupted nutritional supplementation for malnourished children in ZMH.
- Nurses need latest National guidelines for managing child with HIV/AIDS.
- Urgent Recruiting ART trained physician. Since patient visit is increasing over time.
- Continuous CD4 monitoring of HIV/AIDS children every six month should be done

9.2.2Recommendation for AACA-HB

- Regularly provision of recording and reporting formats, and recent guidelines. In addition frequent supportive supervision should be encouraged.
- Uninterrupted supply of second line ARV and OI drugs to ZMH
- Integration of regional HIV PCR diagnostic service to WWO-AHF.

9.2.3 Recommendation for WWO-AHF

- Urgent recruiting physician to enhance uninterrupted pediatric ART service
- Supportive supervision to Nurses specially on screening eligible children for ART and Cotrimoxazole prophylactic therapy
- Nurses need latest National guidelines for managing child with HIV/AIDS.
- Attention and supervision on the completeness of recording and reporting formats
- Continuous CD4 monitoring of HIV/AIDS children every six month should be done

Chapter10. Meta-Evaluation

Utility-The evaluation study follows participatory approach. Stakeholders were involved from planning, data collection, analysis and interpretation of the results. The evaluation identified the weakness and strength of program implementation. Thus, it would help to take corrective measures and finally for program improvement.

Feasibility- Two Health facilities were selected for cost effectiveness. Different experts and beneficiaries of the program were involved in information provision.

Propriety- Jimma University ethical clearance and cooperation letter of AACA-HB were obtained. Parents /Care takers children with HIV/AIDS were responsible to sign the informed consent to their children. In addition to this each participant participated based on their interest; individual name or address were kept as a secret and to avoid discrimination at school level no name and address of children were expressed

Accuracy-The study design, access indicators, and data comparisons were used for evaluation would help to keep its internal validity. In addition to this quality of evaluation was kept by supervising the data collectors and it were checked for completeness, compliance, and consistency.[14]

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Appendix A. EVIDENCE AND JUDGMENT

TABLE19. INFORMATION MATRIX

Dimension	Indicator	Information Source				
		In-depth interview	Observation	Client exit interview	Expert interview	Document Review
Availability	Proportion of latest national pediatrics ART guideline and reporting format available in Pediatric ART clinic.		X			
	Proportion of uninterrupted supply of Drugs (ARV regimens and cotrimoxazole) in Pharmacy for the past three months.		X		X	
	Proportion of Laboratory facilities having CD4 machine and essential laboratory service				X	
	Proportion of pediatric ART clinic having Model of comprehensive HIV care and leadership.		X		X	
	Proportion of Trained ART Health personnel's				X	X
Compliance	Proportion of HIV/AIDS children monitored CD4 count or % at least six month interval during treatment		X			X
	Proportion of HIV/AIDS children got Cotrimoxazole who are eligible according to the guideline		X			X
	Proportion of HIV/AIDS children eligible for ARV who are currently on ARV according to guideline					
	Proportion of referral forms filled correctly according to guide line in pediatric ART site					X

	Percentage of pediatric HIV care/ART follow up card filled correctly according to guide line					X
Accommodation	Proportion of Parents or Care takers of HIV/AIDS children satisfied by the Pediatrics diagnosis and treatment service		X	X		
	Proportion of Parents or Care takers of HIV/AIDS children satisfied by waiting time, area and distance of HF		X	X		
	Proportion of Parents or Care takers of HIV/AIDS children satisfied by provider keeping privacy and communication skill.		X	X		

Appendix B. Record review checklist of HIV CARE/ART clinic pediatric intake form in Addis Ababa region

- ❖ Note use Ethiopian calendar and a format of DD/MM/YYYY

- Health facility name _____

Date:_____/_____/_____

I. Patient Identification

1 Mother's PMTCT confidentiality code Number:_____

2 Child's Unique ART number _____

3 Gender:____

4 Age:_____

5 Date confirmed HIV positive _____

6 Child referral information

1 This institution

2 Other (specify Name) _____

II. Clinical Review

1 Symptom check list is filled ☐ No ☐ Yes
Remarks_____

2 General appearance of child is correctly filled ☐ No ☐ Yes
Remarks_____

3 System findings are described ☐ No ☐ Yes
Remarks_____

III. WHO stage and Clinical Review

1 WHO staging is correctly filled and identified ☐ No ☐ Yes
If yes stage number_____

IV. Social Assessment

1 Child currently lives with

i. parents
ii. Guardians
iii. In orphanage
iv. Siblings

2 If child lives with parents

i. mother and father live together
ii. Divorced
iii. Widowed
iv. Single parent

3. Child's birth order_____ and Total family size_____
4. If child living with orphanage
a. Does orphanage has its own health facilities? ☐ No ☐ Yes
b. Does the child attend school? ☐ No ☐ Yes
If no why_____

4. Circle the choice if the child has one or more concerns of the followings
a. Financial issue in the family
b. Bereavement/grief
c. HIV status disclosure
d. family r/ship
e. Housing problem
f. Nutritional problem
g. Adherence to treatment

VI. ART Adherence preparation councilling

1. Circle Adherence barriers are assessed and discussed properly

a. Fear of stigma and discrimination
b. Disclosure issues
c. Parents/caretakers illness
d. fear of hospital environment /staff
e. Unemployment
f. loss of parents
g. Work related issues
h. Psychiatric/psychosocial problem
i. Pediatric formulation
j. substance abuse(alcohol, chat, tobacco...)
k. Transportation
l. Misconception
m. Lack of compression
n. Nutrition guidelines

VII. ART Assessment

1. Laboratory result
CD4: absolute_____ percentage_____
2. WHO criteria for immunodeficiency infants is analyzed and described. No ☐ ☐ Yes

ARV treatment eligibility because of ____. Circle one or more choice
a. WHO clinical stage
b. CD% count/TLC
c. Other reason then specify_____
3. OI Prophylaxis
a. child is on cotrimoxazole for the past three months. No ☐ Yes ☐
b. child is on INH for the past three months. No ☐ Yes ☐
4. Recommend ART ☐ No ☐ Yes

If yes specify the regimen_____
5. Referral source_____

Form completed by _____ Sign. _____

Date form completed _____

Appendix C. Checklist for record completeness

1. Checklist for record completeness of Pediatric HIV care/ART follow-up form

- ❖ Note use Ethiopian calendar and a format of DD/MM/YYYY

- Health facility name _____

  Date:_____/_____/_____

V. Patient Identification

1 Mother's PMTCT confidentiality code Number:_____

2 Child's Unique ART number _____

3 Gender:____

4 Age:_____

5 Date confirmed HIV positive _____

6 Child referral information

1 This institution

P/F	S/US	Date	Months on ART	Wt. (KG)	Height /head Circum. (cm.)	WHO stage 1-4	TB screen P/N	OIs	Cotrimoxazole		ARV drug			CD4 /mm3 Or % If<5 yrs		Next visit date
									Adh (G,F, P)	Dispense dose	Adh (G,F,P)	Dose/ code	Side effect			

2 Other (specify Name) _____

II. Patient follow-up card check list to assess essential field are correctly filled and record the recent result.

2. Record review of completeness for HIV CARE/ART transfer and referral form

- Tick X sign on empty box corresponding to column after checking the record
- Tell or describe about record keeping after finishing checking for improvement

Sr. No	Entities to be completed on the form	Fully completed	Partially completed	Not completed
1.	Referring and referred facility Name			
2.	Child's and parents or Caretaker's full Name and Address			
3.	Reason for eligibility to ART			
4.	Date started ART and current regimen dose			
5.	Reason for change of ART			
6.	Level of ART adherence and current medication			
7.	Past ARV use of Mother for PMTCT			
8.	Lab. Data and findings			
9.	Referring clinicians Name and Address			

Appendix D. Questionnaire to assess Parent's or Care taker's satisfaction with clinical care received for their children at pediatrics ART clinics in Addis Ababa selected HF

Instructions to Interviewer:

This data collection form is only used to collect from Pediatrics ART clinics in selected HF of Addis Ababa. The data will be collected when the child finished receiving ART care.

Carefully read and follow the instructions indicated in each part when you collect the data Please explain the purpose of the evaluation study to Parent's or Caretaker's and complete the informed verbal consent form before starting to precede collection of the data.

I. Identification and client background

Name of Health Facility _____

Sr.no	Questions	Responses	Go to
101.	child's age (in months)	_____	
102.	Sex	**Male……..1** **Female……2**	
103.	Age of parent or Caretaker's (in years)	_____	
104.	Sex of parent or Caretaker's	**Male……..1** **Female……2**	
105.	**Marital status of respondent**	1. Married 2. Single 3. Widowed 4. Divorced /Separated	
106.	Educational status of the respondent	1. Illiterate 2. Can read/write but no primary education	

		3. completed primary education 4. completed secondary education 5. attended tertiary school	
107.	Occupation of the respondents	1. Government employee 2. Trader/Merchant 3. Student 4. House wife 5. Sex worker 6. House maid 7. Other (specify)_____	
108.	Income monthly (rough estimate)	_____ **in birr**	
109.	Reason for current visit for child	1. ART clinic scheduled visit 2. ART clinic unscheduled visit 3. First visit to ART clinic	
110.	How long is the child on ART?	1. < 2 months 2. 3-12 months 3. 13-24 months 4. >24 months 5. Not yet started	
111.	How far did the parent or Caretaker and child travel to reach the facility?	1. < 5 kms 2. 5-10 kms **3.** >10 kms	
113.	How much money is spending for extra medical services per	_____**birrs.**	

	visit?		
114.	How much money did the patient feel that he/she lose as opportunity cost per each visit?	_____birrs.	
115	Relationship of care giver to the child	_____	

II. Use patients' rating of satisfaction to complete the table below. Mark "X" in the appropriate box. No multiple answers.

Sr. No	What is your level of satisfaction with	Strongly satisfied	satisfied	Uncertain	Dissatisfied	Strongly dissatisfied
201	cleanliness of waiting room					
202	ARV and OI drugs are always available					
203	Laboratory facilities are always available					
204	The clinic is easily accessible in distance for me.					
205	The staffs approach towards you and child.					
206	The physician keeping your privacy and child's during examination					
207	The information given by physicians about your child's diagnosis.					
208	The information given by physicians about your child's treatment					
209	I can have unscheduled visits					

	easily if I feel that I should.					
210	Providers allow me to talk what my child feel is important.					
211	The time spent with the physicians during examination					
212	The waiting time in this HF.					
213	Providers explain my child's problems and treatments to me very well.					
214	The waiting area is comfortable for me and my child to wait in.					
215	My child is improving because of the care I received.					

Data collector _____

Signature _____ **Date** _____

Appendix E. Pediatrics ART Resource Inventory and observation Tool

I. Health facility identification

1. Name of the health facility _____
2. Kifle Ketema _____
3. Woreda_____
4. Date ART started in the facility _____
5. Planed ART enrollment for the end of last completed month _____
6. Number of ARV taking children's till end of last completed month _____
7. Total children with HIV/AIDS ever enrolled to chronic HIV care

   _____
8. Total children with HIV/AIDS ever started ART in the facility

   _____

9. Pediatric care and ART latest (2006) guidelines 1. Yes 2. No. If no why?_____
10. Pediatric ART unit reporting formats 1. Yes 2.No, if no why _____
11. IEC materials. 1 Yes 2. No, if no why _____
12. How many hours per day does this facility provide Paediatric ART service? _____
13. How many days per week does the facility provide Paediatric ART service? _____

E.1 Resource Inventory
Check list for Human power availability

Category	No of Permanent	assigned to ART clinic on the date of interview	No of par time	Remark
General practitioner				
Specialist (Pediatrician)				
Health officer				
Nurse				
Councilor Nurse				
Pharmacy tech./pharmacist				
Lab. technician				

X- ray technician				
Pediatric ART data clerk				

III. General infrastructure and Equipment/supplies

Structural dimension indicator		Present		Absent	Remark
		Yes	Number		
Waiting room					
Counseling room					
On-site pharmacy Secure storage space					
pharmacy Private counselling room or space					
Specimen collection area 1					
Lab. additional room					
Examination room					
Treatment room					
In patients room					
Lab room					
Toilet room	In patient				
	OPD				
Water supply	In patient				
	OPD				
	Lab room				
	Toilet room				
Electricity supply					

Infrastructure for Equipment and	Equipment and supplies	Present		Absent	Remark
		Yes	Number		

supplies					
Clinical room	otoscope				
	stethoscope				
	blood pressure cuff				
	Reflex hammer				
	tongue blade				
	infection prevention materials				
Clinical MandE/MIS	Log book				
	Recording/reporting forms				
	Special ART prescription				
Pharmacy room	Refrigerator				
Pharmacy MandE/MIS	bin card				
	stock card				
	registration book				
	prescription forms				
	models				
	report forms				
	Lockable drawer				
	receiving voucher				
Lab. room MandE/MIS	Log book				
	Recording/reporting forms				

IV. Laboratory facilities and services

Ask laboratory department head and verify by observation to complete the following table. (Name of Person contacted _____)

Service/equipment	**Available**		**Functional this week**		**Reason if not functional**
	Yes	**No**	**Yes**	**No**	
HIV serologic test					
CD4 count					

TLC					
Viral load					
CBC					
X-ray					
Hgb/Hct (if no CBC)					
LFT					
Blood film					
Stool examination					
Microscope					
CD4 count machine					
Hematology auto analyzer					
Clinical chemistry auto analyzer					
Centrifuge					

VI. Uninterrupted supply of drugs

Review stock cards and interview pharmacy staff to complete the following table.

(Function of person contacted _____)

1. ARV drugs

Drug Category	Drug	Available on date of evaluation		Is the drug expired? tick yes/no	Cumulative period of drug stock out during the past 03 months
		Yes	No		
First line drugs	Stavudine (d4T)				
	Lamivudine (3TC)				
	Nevirapine (NVP)				
	Nelfinavir (NFV)				
	Zidovudine (ZDV, AZT)				

Second line drugs	Didanosine (ddI)				
	Abacavir (ABC)				
	Lopinavir/Ritonavir (LPV/r, LPV/RTV)				
	Tenofovir disoproxil fumarate (TDF)				
	Nelfinavir (NFV)				

2. OI drugs and other supplies

Drug	**Currently available for free**		**Currently available for fee (Check if not available for free)**		**Cumulative period of drug stock out at ART pharmacy during the last 6 months**	**Last month with drug stock out (mm/yyyy)**
	Yes	**No**	**Yes**	**No**		
Cotrimoxazole tablet						
Cotrimoxazole syrup						
Prednisolone						

V. Comprehensive HIV care

Comprehensive care and ART treatment	Tick "X" mark		Remark
	Yes	No	
OI service			
Nutritional service			
TB treatment service			
Immunization service			
Counselling service			
Psychosocial support			

Palliative care			
Referral service			
Inpatient service			

E.2. Observation of Pediatric ART service provider and patient interaction

Obtain the consent to observe the interaction between the client and provider. Make sure that the provider knows you are not there to evaluate him/her and that you are not an "expert" who can be consulted during the session. When observing, be as tactful as possible: try to sit so that you are behind the client but not directly in view of the provider and make notes quickly. For each question, circle the response that most appropriately represents your observation of what happened during the interaction.

1. Observe and mark the following activities while the physician interacts with Care giver and child.

Date and Time observation started _____

Patient serial No	History of patient health asked		Physical examination is done		Simple and understandable word used		Remarks
	Yes	No	Yes	No	Yes	No	

Respondent profession level _____Time observation ended _____

2. Observe and mark the following activities while the Nurse interacts with Care giver and child.

Date and Time observation started _____

Patient serial No	Growth and nutritional Assessment done		Follow up scheduled		Simple and understandable word used		Remarks
	Yes	No	Yes	No	Yes	No	

Respondent profession level _____Time observation ended _____

3. Observe and mark the following activities while the counselor interacts with Care giver and child.

Date and Time observation started _____

Patient serial No	Drug adherence asked		Asked about psychosocial support		Simple and understandable word used		Remarks
	Yes	No	Yes	No	Yes	No	

Respondent profession level _____Time observation ended _____

4. Observe and mark the following activities while the pharmacist/pharmacist technician interacts with Care giver and child

Date and Time observation started _____

Patient serial No	Types of drugs checked		Pills counted		Patient instructed about drug		Remarks
	Yes	No	Yes	No	Yes	No	

Respondent profession level _____Time observation ended _____

Form completed by _____ Sign. _____

Date form completed _____

Appendix F. In-depth Interview Questionnaire

Jimma University, Faculty of Public Health, Post graduate Health Monitoring and Evaluation program.

Name of Interviewer_____

Date of Interview_____

Type of Facility/Institution_____

Name of Interviewee_____

Staff Position and Profession_____

Good morning, Good afternoon my name is _____
This interview is being conducted to get your input about Pediatrics ART implementation in your clinics. Your Idea is helpful to improve the activities related to the service.

If it is okay with you, I will be tape recording our conversation. The purpose of this study is to assess quality of Pediatrics ART in A.A by exploring your feeling, opinion or experience, so that I can get all the details but at the same time be able to carry out an attentive conversation with you.

I assure you that all your comments remain confidential. I will be compiling a report which will contain all staff comments without any reference to individuals.

1. I'd like to start by having you briefly describe your responsibilities and involvement thus far with the Pediatrics ART service in this Institution?

I'm now going to ask you some questions that I would like you to answer to the best of your ability. If you do not know the answer, please say so.

2. How do you consider the children's ARV treatment relative to adult ART? (Probe for infrastructure and housing condition, staffing, patient load)

3. Do you think there is enough human and material resource to address children with ART and other care service? (Probe for level of professional education, training of staff, drug availability, and psychosocial support)

4. What do you think that is important to children on ART to improve the quality of Care?
5. What other services should be provided in the pediatrics ART?

6. What are the most important factors for the program's success and failure?

7. What problems and/or offenses does the program target? _____
8. What do you say about sustainability of pediatrics ART service and free drug supply?

Appendix G. Consent Form For Pediatrics ART Service Clients

Dear Participants,

Good morning or Good afternoon my name is_____. I am working in a research team, which is conducted by Jimma University and I am conducting an assessment in selected HF of Addis Ababa to assess the level of satisfaction related to pediatrics ART service and to provide information for improvement of Pediatric ART clinics. For this purpose your cooperation is essential. The information collected from your is strictly kept confidential and only used for lesson learning in this process evaluation. You have the right not to allow us to collect the data or refuse not to give the needed information.

If you decide that you don't want to participate in the study or decide at any time in the future that you don't want to participate. It will not affect the service you receive at the clinic now or in the future. While the results of this study may be published, your privacy will be protected and you will not be identified any way.

Are you willing to allow us to collect the data?

1. Yes ☐ signature_____
2. If client refuses to be interviewed, please check this box: ☐

Annex H. Informed consent Amharic

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Annex I. Amharic Questionnaire

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