ADDISABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES

DEPARTMENT OF NURSING AND MIDWIFERY

ANTI- RETOVIRAL THERAPY ADHERENCE AMONG HIV-INFECTED CHILDREN AGED 2-14 YEARS IN TIKUR ANBESSA SEPCIALIZED HOSPITAL, ADDIS ABABA, ETHIOPIA

BY KETEMA DIRIBA (BSC)

A RESEARCH THESIS SUBMITTED TO ADDISABABA UNIVERSITY SCHOOL OF ALLIED HEALTH SCIENCES, DEPARTMENT OF NURSING AND MIDWIFERY, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER IN CHILD HEALTH NURSING, TIKUR ANBESSA SPECIALIZED HOSPITAL.

JUNE, 2015

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Acronyms

AAU –Addis Ababa University

AIDS-Acquired Human Immune deficiency Syndrome

ART-Anti-Retroviral Therapy

HAART- Highly Active Anti-Retroviral Therapy

HIV –Human Immunodeficiency virus

PLWH-people living with HIV Aids

PMTCT-prevention from mother to child transmission

PreP- pre exposure prophylaxis

RLS- resource Limited settings

WHO –World Health Organization

Abstract

Background: Adherence to antiretroviral therapy (ART) is a strong predictor of progression to AIDS and death. The fact that a nearly perfect adherence is required in ART has remained a major challenge to people infected with HIV. Consequently, non-adherence to the proposed antiretroviral regimen is considered to be one of the greatest dangers to the response to treatment on an individual level and the dissemination of resistant viruses on the community level.

Objectives: - The aim of the study was to identify the adherence level and associated factors with adherence to ART among HIV infected children aged 2- 14 years in Black Lion Specialized Hospital ART clinic, Addis Ababa, Ethiopia.

Method: - A cross-sectional study was conducted between April and May, 2015 in Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia. A total of 190 children aged 2-14 years on first line ARV regimen for at least six month were included in the study. The registered list of the children on ART by unique ART registration number was used as sampling frame. Data was collected by using interview with structured questionnaire. Ethical clearance was secured from Addis Ababa University College of health sciences institutional ethical review board. The collected data was cleaned, checked for quality, coded and analyzed by using manual and statistical methods, logistic regressions were computed. Odds ratios were computed to determine the level of significance.

Result: A total of 190 children were included in this study, and 89.8% of the participants had taken their prescribed ARV drugs fully for the past 7 days. Considering individuals who had ever missed their dose regardless of time reference, overall adherence rate 87.75% was obtained. Although most frequently mentioned reason of missing their dose in the last one week was forgetting (48.1%), ADRs, Quarrel among family are also found to be barriers to adherence. After controlling the effects of other variables, two variables namely income and occupation were found to be significantly associated with adherence to ART in children.

Conclusion: Adherence rate obtained in this study is lower than what is required. Forgetfulness, ADRs, and quarrel among family were most frequently mentioned barriers of adherence.
Income and occupation are factors found to be significantly associated with adherence to ART in children.

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1. INTRODUCTION

1.1. BACK GROUND

The last two decades, HIV/AIDS has continued to spread across all continents causing the death of millions of adults in their prime age, disrupting and impoverishing families and turning millions of children into orphans. HIV/AIDS affects the most productive segments of the populations, and the epidemic has thus tremendously reduced workforces and reversed many years of economic and social progress and has in some cases posed threat to political stability(1).

Globally, of the estimated 34 million people living with HIV in 2011, 3.3 million were children under the age of 15 years. More than 90 percent of these children were residing in sub-Saharan Africa .In 2010, Ethiopia had 1,216,908 people living with HIV of which 79,875 (6.5%) were children. Antiretroviral Therapy (ART) improves the prognosis of HIV-infected individuals, reduces HIV-related morbidity and mortality, and reduces other opportunistic infections (1, 2).

HIV/AIDS requires long-term treatment and adherence to medication is believed to decrease with time. For patients taking daily medication, the exercise is tedious and in six months, compliance to medication was shown to decrease significantly (3).

HAART adherence is a crucial issue in caring for HIV patients. Interrupted adherence can result in resistance to first-line ART. In such cases, patients often must switch to significantly more expensive second-line regimens which are more difficult to procure and more difficult for patients to access (4).

Even though it doesn't cure, highly active antiretroviral therapy (HAART) has remained the only available option in reducing HIV/AIDS-related morbidity and mortality. It has long been found to be effective in reducing viral load, improving immune Function, and improving the quality of life of PLWH (5).

ART shortens illness duration, improves quality of life and survival of PLWHA through reduction of viral load and increasing the level of CD4cells. Median survival time increased from 18 to58 months in Brazil when ART was introduced (4, 7). However, lack of adherence to ART

is a major challenge to AIDS care. Adherence is taking the correct dose of medications, on schedule, and following dietary instructions (3, 8). Poor adherence is linked to the development of drug resistance, higher mortality rates, lower rates of increase in CD4 cell count, lower rates of undetectable viral load, lower therapeutic success and increased hospital days (4, 8).

For children who are born with HIV, ART has resulted in decreased mortality and morbidity, meaning that children experience a less symptomatic disease course and many of those born with HIV live well into. As a result, research has shifted from focusing solely on prolonging survival to considerations of quality of life, sustained overall health, and clinical monitoring of health markers (6, 7).

Inadequate adherence increases the risk of drug resistance and treatment failure. Therefore, optimum adherence is essential for sustainable success of ART. Suboptimal adherence among children is common in both developed and developing countries. Taking $\geq$ 95% of prescribed doses is recommended for optimal virologic suppression and minimizes the rate of treatment failure and decreases risk of virologic failure by more than 50% (2, 9).

Through successful prevention of mother to child transmission (PMTCT) programs, developed countries face few new cases of infant HIV-infection annually; however, as a result of successful ART use, children are surviving into adolescence and struggling with many adherence challenges associated with long-term therapy. Difficulties include high rates of drug resistance due to prior treatment with suboptimal therapy, severe side effects, mental health issues, and horizontal infections among adolescents. Developing countries are confronting different challenges for achieving and maintaining ART adherence as they scale-up pediatric ART programs. Healthcare resources are typically constrained and the burden of co-morbid disease is high (9).

In both low and high-income countries, several factors have been associated with ART adherence and non adherence such as patient characteristics, socioeconomic factors, treatment regimen, disease characteristics, patient-care provider relationship, and clinical settings (5, 10).

Reasons reported for non-adherence in African studies include forgetting, travel, fear of disclosure, shortage of pills, difficult schedules, cost, lack of access and privacy.

In two studies in Addis Ababa, being too busy/forgetting, travels, depression, drug adverse effects, treatment fitting to daily routine, relationship with health care providers, patients' perceptions of their doctors' capacities, perceived access to support from their ART unit, and reliable pharmacies, keeping clinical appointments, using memory aids, and educational levels were associated with ART adherence (5,8).

In Ethiopia, the antiretroviral treatment program started with a fee-based ART program in 2003 then decentralized and free ART program in the Country was lunched since 2005. Consequently, non-adherence to the proposed antiretroviral regimen is considered to be one of the greatest dangers to the response to treatment on an individual level and the dissemination of resistant viruses on the community level. Little is known about the rate and predictors of adherence in Ethiopia (11).

1.2. Statement of the problem

Poor adherence to antiretroviral therapy negatively affects the suppression of viral replication. It increases risks of drug resistance, treatment failure, Acquired Immune Deficiency Syndrome (AIDS)-related morbidity and mortality among children (5, 8).

Treatment adherence in pediatric care has been less extensively studied, yet influences appear even more complex than in the care of adults. For example, the burden of treatment generally lies with caregivers rather than with the patients themselves. Additionally, whereas in adults the therapeutic relationship is between the medical team and the patient, in pediatric care there is a 'therapeutic triad' with communicative interactions between parent -professionals; child -professionals and parent -child [8].

HIV has now become a manageable chronic disease. However, the treatment outcomes may get hampered by suboptimal adherence to ART. Adherence optimization is a concrete reality in the wake of 'universal access' and it is imperative to learn lessons from various studies and programmes (14).

Adherence to therapy is vital to preventing resistance and maintaining the effectiveness of ART regimens. Adherence to ART is a challenge, particularly for children.

Children rely on a caregiver, who often is also infected, to administer medication. These challenges may be exacerbated in resource-limited settings (RLS) that are most affected by the HIV epidemic. Often elderly family members have to care for children whose biological parents have passed away, and end up being burdened with multiple dependents while being frail themselves (15).

Among the factors that can influence treatment success or failure, research has identified high adherence to ART regimen as the most important predictor of viral suppression, improved CD4+ T Cell count, delayed progression to AIDS and patient survival. However, ensuring a high level of adherence is very difficult in cases of children on ART (12).

Patient and family/caregiver related issues makes adherence to HAART in children very challenging. There is need therefore to identify the caregiver factors associated with adherence as this will help improve adherence in children thus increasing the likelihood of suppressing the

virus, postponing the disease progression, decreasing morbidity associated with HIV and improving the quality of life in children infected with HIV(11,12).

Unlike treatment for most chronic conditions, ART requires very high levels of adherence for an indefinite period to achieve the desired results. Near-perfect adherence levels of > 95% are required to optimize the outcomes of highly active antiretroviral therapy (HAART), such as minimized drug resistance, slowed disease progression, decreased hospitalization and delayed death (16).

In the presence of suboptimal drug levels due to poor adherence, these benefits may not be realized and may result in viral replication and viral rebound which in turn leads to immunological or clinical failure. Similarly adherence to ART based interventions will be critical in achieving the goal of reducing HIV transmission rates among at-risk populations using pre-exposure prophylaxis (PreP) and other biomedical interventions. However, the pill burden, complicated dosing requirements, and suboptimal tolerability due to side effects make adherence difficult (17).

Sustaining adherence represents a significant challenge for children getting treatment, their caregivers as well as the healthcare providers. In order to facilitate adherence to HAART and increase treatment outcomes in HIV infected children, it is necessary to know possible and relevant issues in pediatric patients that influence adherence and determine possible interventions to improve adherence in children. There is need therefore to conduct studies to establish adherence rates and identify the family/caregiver factors affecting/associated with adherence. This will help increase the understanding and enhancement of HIV treatment adherence in pediatric patients (12, 17).

There is limited data on adherence to antiretroviral therapy worldwide, few studies of

HIV-infected children show adherence to antiretroviral drugs as a major problem in pediatric antiretroviral therapy. Adherence to antiretroviral drug in children and adolescents is a problem due to multiple factors which include high pill burden, poor palatability, side effects, long term toxicity, forgetfulness and caretaker factors (18, 19).

1.3 Significance of the study

Adherence or compliance with therapy is one of the most complex areas of ART management. While the development of resistance to ART is regarded as the greatest threat to our current armamentarium of drugs, poor adherence, which is the major cause of the development of resistance, is given little attention in planning an antiretroviral programme (1, 31).

In view of this, it is vital that a study be conducted to assess levels of adherence among children on ART and factors associated with adherence at Tikur Anbessa Hospital ART clinic.
The findings will add to the existing literature on the care and support as well as will be used to forward comments on the existing care and support of the children receiving ART. As ART is life-long, it is important to assess level of adherence and look for factors affecting it in children. This study will also help to suggest measures to reduce non-adherence in children.

Moreover, identifying associated factors of adherence in children will contribute to improved adherence to ARV. Data from this study will be useful to health planners such as those at the Ministry of Health and non- governmental organization working on ART. The finding of this study, therefore, will enable such bodies to design better programmes to alleviate the problem of non-adherence to ARV in children and serves as resource for new research on identified gap.

Lastly, this paper will be used as important literature for future researchers who want to undertake similar study.

2. LITERATURE REVIEW

2.1 Adherence levels

Different adherence rates have been reported in various studies in Africa. The rates of adherence varied with study characteristics and method of ascertainment of adherence i.e. individual reports, pharmacy records and pill counting (27, 29).

Some studies have reported that fewer than 50% of children and/or caretakers report 100% adherence to their clinically prescribed regimens (27). However, others have reported adherence in terms of mean adherence rates of greater than 90% (30).

In the study published on Journal of Health and psychology of New York on women and men (2007), At least 95 percent adherence was reported by 43.0 percent (n = 118) of the sample. To explore predictors of adherence (>95%) versus non adherence, logistic regression was performed with dichotomous adherence as the dependent variable and the Cognitive, Affective, Social and Alcohol factors entered as independent variables. In the same study, barriers to adherence (e.g. side-effects, the often complex regimen instructions, the potential for unintended disclosure of HIV status, etc.) were identified (34).

Among the nine studies in Cameroon, conducted between 2000 and 2010, reported different adherence rates. Of these findings, the first was Kouanfack [27], which reported high adherence rates (88.7% and 97.5%, using biological markers and self report respectively). The second, Mosoko [25], reported very low adherence rates (10.1% using hospital records of the number of scheduled clinic visits attended). These data may be affected by inaccuracies in hospital records (incompleteness was handled using imputation techniques); participants who lived far away were sometimes given medication for more than one month; patients who lived in the nearby city of Douala had other ART opportunities and this measure (scheduled visits) considers all deaths and lost to follow-up as non-adherent. The other study using attendance of scheduled visits also reported low adherence rates (<50%) and it also identified the factors associated with adherence are age, sex, caregiver type, income, disclosures to child, caregiver-child communication, caregiver health believe, depression, stress, stigma and forgetfulness (19).

A systematic review and meta-analysis of studies in adults evaluating adherence to ART in sub-Saharan Africa and North America reported a combined continent estimate of adherence rates of

64%. The pooled estimate for the North American studies was 55% and for the African studies was 77%, indicating a higher level of ART adherence in Africa.

Studies conducted in Africa have largely been of adults and they have generally shown a higher level of adherence than in the developed world. In Senegal, using self-report and pharmacy records, on average, patients said they had taken 91% of each monthly dose (n= 158). In Malawi, defining adherence as taking 80% of prescribed therapy among 464 adults, prevalence was 93%.41 A study done in Botswana among 176 randomly selected patient records using 7-day recall questionnaires and pill counts, found overall monthly average adherence was 83%.41 In Nigeria, adherence was reported as "good" in 74% of patients among 226 adults. A few studies conducted in Africa showed low levels of adherence. In all, poor adherence was attributed to the high costs of drugs and stock-outs. For instance in Botswana, the prevalence of adherence was 54% (n=112) (24).

Studies indicate that despite earlier fears of poor medication adherence [7, 20], patients in developing countries are able to achieve adherence levels similar to or higher than those of patients in developed countries [21]. For instance, a review by Vreeman and colleagues indicated that the majority of the studies in developing countries report adherence levels of more than 75% (range 45–100%), while in developed countries the majority report less than 75% (range 20–100%) [20].

Another systematic review by Mills and colleagues obtained a pooled estimate of adequate adherence by sub-Saharan Africa patients of 77% (95% confidence interval, 68–85%; based on a total of 12,116 patients), whereas the figure for North American patients was 55% (95% confidence interval 49–62%; based on a total of 17,573 patients) [23]. The same study concluded that adherence is a concern in North America (23, 24, and 25).

2.2. Determinants and associated factors with Adherence to Antiretroviral therapy

Establishing and maintaining adherence to medication is a difficult goal for an individual with chronic illness even when treatment regime is simple and the patient is clearly symptomatic**.** Poor adherence to medication then means, for example, that the patient skips entire doses, stretches prescribed time between doses, modifies doses, does not take medication for 3 or more days, unintentionally misses doses for reasons such as forgetting to take pills, not having a prescription filled or refilled, or discontinuing the medication.(17, 18, 19).

Over the last half century, research in the management of many chronic and acute illnesses with medications has grown rapidly. The process of adherence to medication is a complex endeavor which involves (i) keeping the scheduled appointment, (ii) accepting a prescription for a medication, (iii)filling the prescription at pharmacy, (iv) taking the medication as prescribed(dose taking, dose timing), (v) maintaining an adequate supply by filling prescription in timely manner, and (vi) returning to the provider for ongoing monitoring. The success of long-term medication use depends strongly on adherence to medication to maximize treatment benefits. In other words," Drugs don't work if people don't take them" (17).

Access to ART in low and middle income countries increased from 400,000 in 2003 to 6.65 million in 2010 representing 47% coverage of people eligible to treatment resulting insubstantial declines in the number of people dying from AIDS related cause sin the last decade. Increased access to ART also substantially contributes to decline in number of new infections as of WHO HIV/AIDS Progress Report, 2011. Sub-Saharan Africa accounts for the vast majority of deaths averted (17).

The study conducted in Yirgalem Hospital on Two hundred and ninety one adult AIDS patients on 2008, rate of adherence in the week before interview was 74.2%. Main reasons of non-adherence cited by the patients were; being busy or simply forgetting (51%), change in daily routine (9.4%), and being away from home (8.3%). Non-adherence was commoner among patients reporting symptoms in the past four weeks (Adj. OR=6.41, 95% CI: 2.41 to 17.08), who lived more than 47 km away (AOR= 2.48, 95%CI: 1.24 to 4.98), or who had dependents (Adj. OR=1.95, 95%CI: 1.06 to 3.57). in the same study, 3.8% reported active substance use Twenty-two percent claimed they had no social support and 88.3% had disclosed their sero-status; 18.6% fully and 69.8% partially. Only 5(1.7%) were found to be depressed.

Thirty two percent knew the benefits of the regimen before starting ART and 94.1% thought that ART had benefited them by improving their quality of life or improving their symptoms. Initial and most recent mean CD4 counts were 120.93 and 286.37 /mm3 respectively. The average treatment duration was 10.2 months (7).

The study conducted in Kampala, Mulago Hospital, on 170 children aged 2-18 years, indicated the adherence level 94.1% (n=170) Based on clinic-based pill counts, had > or =95% adherence to treatment compared with only 72% (n=164) by unannounced pill counts.(35)

Achieving good adherence is a challenge because patients' regimen involves multiple, complex, and often expensive drugs and may have dietary requirements and side effects that result in poor tolerability. Given the consequence son non-adherence to ART, including rapid onset of viraemia and development of resistant virus that is transmittable to others, an unprecedented amount of research has been undertaken to understand and promote ART adherence (17).

ARV treatment for children requires collaboration between the child and caregiver interms of commitment of caregiver and cooperation of the child. Difficult taking ARV medication is due to unpleasant flavour, smell, nausea, too many pills and side effects .17
Other factors associated with adherence are age, sex, caregiver type, income, disclosure to child, caregiver-child communication, caregiver health believe, depression, stress, stigma and forgetfulness (19).
The factors associated with adherence to ART exist in many categories, defined in literature [19, 21, and 22]:

Patient factors such as substance abuse, being male (i.e. gender), depression, lower levels of education, lack of self efficacy, extreme anxiety, extreme pain, no change in health status despite ART and non-white race are significantly associated with non-adherence [17,18].

Medication factors like dose frequency, pill burden, type of drug, inability to take medication when away from home, food requirements, side effects are also responsible for less than optimal adherence [20, 21, and 22]. In other words the complexity of the regimen and its side effects are associated with non-adherence.

Provider-related factors such as a poor patient-health care provider relationship can affect the patient's overall satisfaction and trust in the provider. The quality of these relationships is significantly associated with better adherence.

Disease characteristics, notably stage and duration of HIV infection, symptoms experienced and the presence of opportunistic infections play a role in adherence to ART. HIV related symptoms

like nausea may impede a patient from swallowing pills. Some studies report that patients who have experienced an opportunistic infection tend to be more adherent than those who have not [22].

Clinical setting and health system factors may influence use of services and adherence [19, 20, 21, 22, and 23].

In a cross-sectional evaluation based on data collected in the Pediatric AIDS Clinical Trial Group (PACTG) 219, the relationship of self reported medication adherence to health, demographic, and psychological characteristics of 2088 HIV-infected children, ages 3- 18 years and their caregivers was examined. Factors associated with either significant or marginally significant increases in non-adherence included, recent stressful life event (OR=1.55, 95% CI 1.14 – 2.09; p=0.05), diagnosis of depression or anxiety (OR=1.85, 95% CI 0.95 – 3.61; p=0.07), and increasing age in years (OR=1.05, 95% CI 1.00 – 1.10; p=0.07, having a primary care giver that was not the biological parent (OR=0.66, 95% CI 0.51 – 0.86; p=0.002), treatment with antipsychotics (OR=0.12, 95% CI 0.02 – 0.88; p=0.04), use of a buddy system for adherence support (OR=0.58, 95% CI 0.34 – 0.98; p=0.04), and previous adherence assessments (OR=0.79, 95% CI 0.65 – 0.95; p=0.01) (32).

The finding of the study conducted in Ethiopia, Ambo Hospital on 166 children, 2014 also indicated that, most frequently mention reasons of missing their dose in the last one week was forgetting (40%), and some were due to ADR (25%). Moreover, quarrel among family as well as mental problems were also found to responsible for significant proportion of reasons for missed dose during this period constituting 17.5% and 10% respectively (33).What studies have found are barriers to adherence such as substance abuse, unstable housing, depression, mental illness, fear of disclosure of HIV status, decreased quality of life, work and family responsibility and past history of non-adherence (22).

In The study conducted in Soweto, South Africa, adherence reported by these patients for the previous month was >95% for 58 patients (88%), 90-95% for 6 (9%) and, < 90% for 2 (3%). The main reasons given for missing doses were being away from home (30%), difficulty with the dosing schedules (23%), and running out of pills (12%). Adherence decreased considerably with fear of being stigmatized by the sexual partner (OR = 0.13 95%, CI 0.02-0.70). Plasma HIV RNA levels were <400 copies/ml in the majority of patients (73% of those with adherence >95% and

88% of patients with < or =95% adherence) and the overall median CD4 (+) cell count rose to 324/mm (3) (IQR: 193-510). (36)

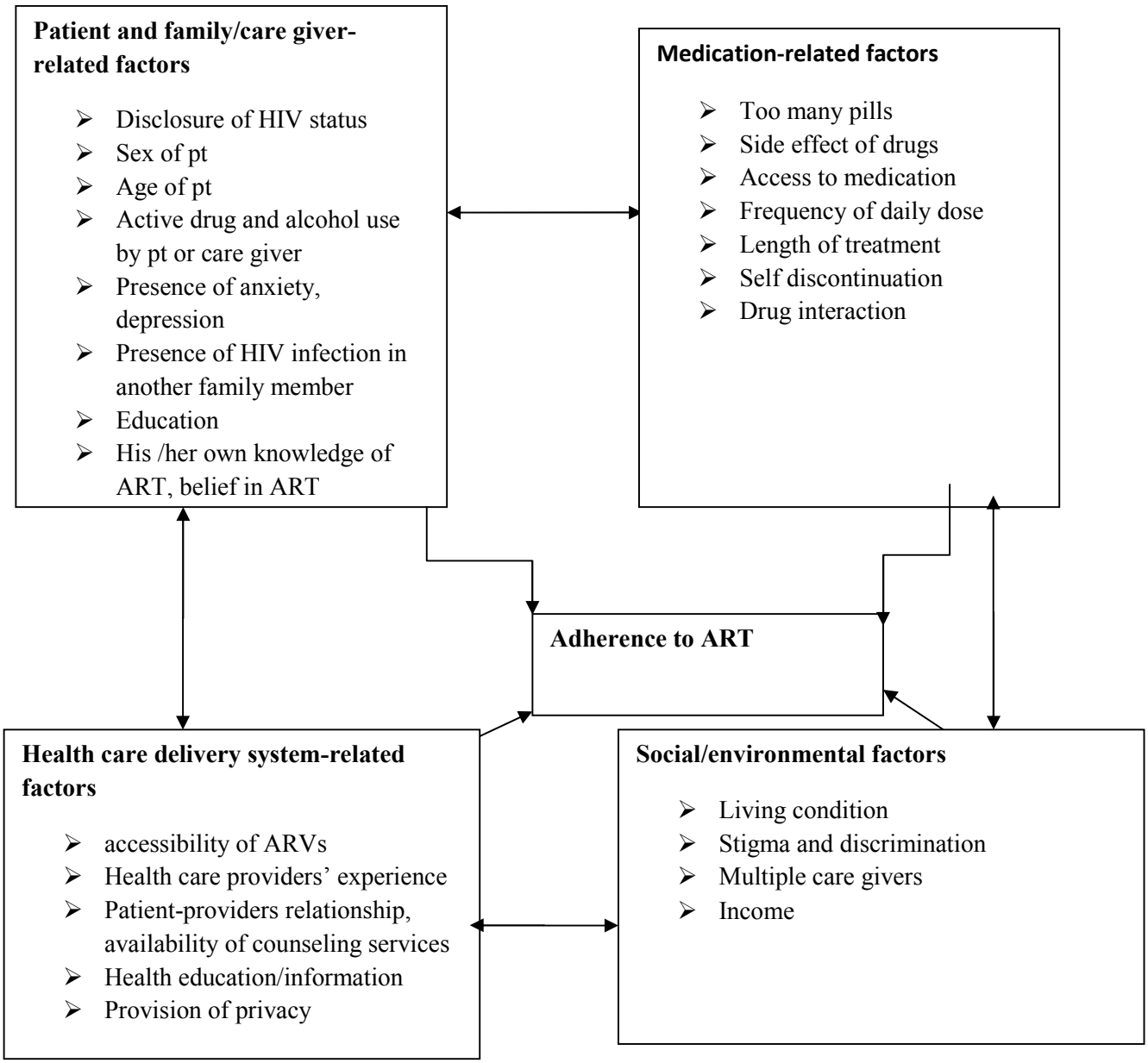

Fig. 1. **Conceptual framework of Identified factors for the challenges of adherence to ART, Tikur Anbessa Hospital, Addis Ababa, Ethiopia, 2015. Taken from (**AIDS Research and Treatment Volume Review Article 2012, Article ID 574656).

3. OBJECTIVES

3.1. Broad objective

The main objective of this study will be to Identify the factors that affect adherence to HAART and assess the level of adherence to ARV among children on ART aged 2- 14 years in Black Lion Specialized Hospital ART clinic, Addis Ababa, Ethiopia.

3.2 Specific Objectives

1. To assess the levels of adherence among children on ART.
2. Identify the factors that affect adherence to HAART.

4. Methods and Materials

4.1 Study area and period

Study was conducted in Tikur Anbessa Specialized Hospital at ART clinic. This Hospital is found in Addis Ababa City, Kirkos Sub City which is the last referral hospital in Ethiopia. The hospital was inaugurated by the title "Prince Mekonnen the Dunk of Harar" Memorial Hospital on 3/11/1973 E.C. the Prince Mekonnen and Princess Tsehay memorial Hospital were merged on 24/5/1975 E.C. by the name of Tikur Anbessa Hospitalon the same day. This hospital sees approximately 370,000 – 400,000 patients a year but the exact number is not known. They have 800 beds with 130 specialists, 50 non teaching doctors. This is the largest teaching hospital for Addis Ababa University Medical School in Ethiopia. There are about 350 residents and 600 intern physicians, and has modern planned and accommodated and facilitated with the outpatient department (OPD), has seven x-ray, nine surgical and two diagnostic laboratory rooms. The hospital has provided the appropriate medical services in the internal medicine, gynecological and obstetrics, surgical, pediatrics and emergency departments. The hospital also has special units (Referral clinics), those are Chest, Renal, Neurology, Cardiology, Dermatology and Sexually Transmitted Diseases, Gastrointestinal, Infectious Diseases, Orthopedics, General Surgical, Gynecologic and Obstetrics, Diabetic, Hematology and Medical ICU. This hospital is selected because it the last and biggest specialized Hospital to provide the best level of care for the patients with different health problems and it is vital to identify the challenges of Adherence to HAART in this hospital and to recommend the solutions for other health institutions based on the findings obtained in this study.

As of February 2015, according to data obtained from ART clinic, there are 526 children on ART at Tikur Anbessa Hospital children's ART clinic.

The study was conducted from March25, to May 10, 2015.

4.2. Study design

• Hospital- based cross-sectional study was conducted.

4.3. Source population

• All children with their primary care givers who are on ART at Tikur Anbessa hospital ART clinic.

4.4. Study population

• All children along with primary care givers who were on ART at Tikur Anbessa Hospital ART clinic and present during study period fulfilling the inclusion criteria.

4.5. Inclusion and exclusion criteria

Inclusion criteria

• Age less than 14 years in case of child receiving the service in ART Clinic.

• Willingness to participate in the study

• Available during data collection period

• On first line regimens

Exclusion criteria

• Have major disability such as deafness

• Severely ill patients

4.6. Sample size and Sampling technique

Sample size

The sample size required for the study was calculated using the formula to estimate sample size:

$$n = \frac{[\ (Z\alpha/2)2\ p(1-p)\ ]}{d2}$$

Where: n= required sample sizes

Zα/2 = critical value for normal distribution at 95% confidence interval which equals to 1.96 (z value at alpha =0.05)

P = established prevalence from previous studies of the topic of interest (80.9%, Adherence level in South Wollo Zone Hospitals Northeast Ethiopia), 2014 (5).

d = an absolute precision (margin of error) =5%

$$n = \frac{(1.96)2\ (0.809)(0.191)}{(0.05)\ 2}$$

n=237

Since the study population is <10,000, finite population correction was used.

nf=n/1+ n/N

= (237) (526) / (237) + (526)

nf = 164

The final sample size by adding 10% non-response rate was : **nf=190**

4.7. Sampling procedure

The selection of the hospital was purposive for the study convenience. There are total of 526 children on ART registered at Tikur Anbessa Pediatrics ART Clinic. The study participants were selected by systematic random sampling based on the registered list of patient ART unique identification number to approach the study subjects. The starting number was randomly chosen from the list using the calculated every Kth value (which is 3).

4.8. Data collection instrument and method

4.8.1 Instrument

Amharic and English version questionnaires were developed and pre-tested to conduct the data collection process. All the questionnaires were originally developed in English and translated in to Amharic. The questionnaire contains information on socio-demographic, socio-economic variables (family income), psychosocial, disease characteristics, regimen related variables. Data was collected by investigator and trained nurses working in ART clinic.

4.8.2 Data collection method

The data was collected through face to face interview using structured questionnaires. The Adherence rate was obtained from registration book. The pre-testing was conducted in 19 children along with caregiver in similar area other than the actual data collection site to establish accuracy of questions and clarity and to determine the length of interviews. Data was collected place from April to May, 2015. Five trained nurse data collectors and two supervisors participated throughout the data collection and the information obtained from the interviewee is kept in privacy.

4.9. Variables

The **dependent variable** is adherence to HAART among children on ART.

The independent variables are socio-economic status, socio-demographic factor, clinical characteristics, behavioral factors- alcohol intake, smoking habit, substance addiction.

4.10. Operational definitions

Adherence to ART: - is defined as taking one's medicine as prescribed and agreed between the patient and provider which is 95% or more adherences to ART. (26).

Non-adherence: Patients' and care givers' self-report of ever missing at least two doses regardless length of time since the missed dose(s).

Poor adherence: missing doses (less than 95% adherence = missing >2 doses of 30 doses or >3 doses of 60 doses.

Care giver: A person who lives with the child and participates in the child's daily care and take the responsibility in giving the child medication and bring the child to clinic.

4.11. Data quality assurance

The questionnaire was translated first into Amharic and back to English to assure its consistency. The questionnaire were pre-tested on children on ART in different facility that was not included in the study to assess for clarity of questions, their sensitiveness as well as understanding of the study subjects about the questions. Based on the result of the pre-test and accordingly, amendments were made. Training was given to the supervisors and data collectors on the

procedure. The data was checked for completeness, accuracy, clarity, and consistency by the supervisors and the principal investigator on daily basis. Any error or ambiguity and incompleteness were corrected.

4.12. Data processing and Analysis procedures

Data management and cleaning were performed to check for accuracy, consistencies, and values. The data has undergone rigorous daily checking to identify and correct errors on time. Data was entered to excel and converted and analyzed using SPSS 20.0 Statistical package. Descriptive statistics were used to describe socio-demographic and economic characteristics of the study and ART adherence. Then bivariate analysis using cross tabulation or bivariate logistic regression techniques was done to see the crude association between the independent variables and the dependent variable. The strength of Association between dependent and independent variables was assessed and presented using odds ratios and chi-squared tests.

4.13. Ethical clearance and consideration

Ethical clearance was secured from Addis Ababa University College of health sciences institutional ethical review board before conducting the study. Letter from University was given to the Hospital administration to secure permission to undertake the study. Information sheet and informed consent form was given and consent was received. Written, signed informed consent was asked after clear understanding and aim of the study was explained to the primary care givers of the children who were to participate in answering of the interviewer administered questionnaire. Each participant was assured of confidentiality, Anonymous data was taken and the confidentiality of participants' information was secured and privacy is maintained.

5. Result finding

Socio-demographic and clinical characteristics of the study participants

Of the 190 study participants, 187 children along with their caregivers were included in the analysis, yielding a response rate of 98.4%.

As shown in table 1, majority 125 (68%) of the children were between 5 and 10 years. Gender wise there is no much difference in which case 54% of the children were girls. A majority 173(73%) of the caregivers were orthodox by religion. Concerning the educational status of the Care giver, 28.9%, were in secondary school.

Regarding occupation, 56 (29.9%) were employee and 25(44.6%) were working as a government employee. 77 (41.2%) of the caregivers were married and 15(8%) were single. 121(61.7%) of the primary caregivers were biological parents of the children. About 106 (56.7%) of the respondents had household income levels above 500ETB.

Table1: Socio-demographic Characteristics of the children and care giver in Tikur Anbessa Hospital, Ethiopia, April-May 2015(n=187)

Variable		Count	Table N %
sex of child	Male	86	46.0%
	Female	101	54.0%
	Total	187	100.0%
age of child	< 5 years	45	24.1%
	5-10 years	125	66.8%
	>10 years	17	9.1%
	Total	187	100.0%
sex of care giver	Male	76	40.6%
	Female	111	59.4%
	Total	187	100.0%
Ethnicity	Oromo	40	21.4%
	Amhara	88	47.1%
	Tigre	26	13.9%
	Gurage	28	15.0%
	others, woliayta, silte,	5	2.7%

	Total	187	100.0%
Religion	Orthodox	137	73.3%
	Muslim	15	8.0%
	Catholic	5	2.7%
	Protestant	30	16.0%
	Others	0	0.0%
	Total	187	100.0%
frequency of going church/mosque	Everyday	48	25.7%
	once a week	88	47.1%
	Sometimes	33	17.6%
	Occasionally	4	2.1%
	more than once aweek	14	7.5%
	Total	187	100.0%
living condition of child	with parents	122	65.2%
	other than parents	65	34.8%
	Total	187	100.0%
Residence	Urban	187	100.0%
	Rural	0	0.0%

	Total	187	100.0%
marital status	Single	15	8.0%
	Married	77	41.2%
	Separated	8	4.3%
	Divorced	40	21.4%
	Widowed	43	23.0%
	others, illegal marriage,	4	2.1%
	Total	187	100.0%
educational status	Illiterate	58	31.0%
	primary education	37	19.8%
	secondary education	54	28.9%
	above secondary	38	20.3%
	Total	187	100.0%
Occupation	Farmer	0	0.0%
	Merchant	40	21.4%
	Employee	56	29.9%
	Jobless	41	21.9%

	others, pension, personal business, daily laborer	50	26.7%
	Total	187	100.0%
income	<200 ETB	21	11.2%
	200-500 ETB	60	32.1%
	>500ETB	106	56.7%
	Total	187	100.0%

ETB: Ethiopian birr.

Clinical Characteristics of the Child and Care Giver

Table 2 shows the clinical characteristics of the child and its care giver. Accordingly, most of the children 39(20.9%]) were in stage I based on WHO classification. Majority (31.6%) of the children in this study had CD4 count of > 350 cells/mm3. Half (50.8.5%) of the children had their HIV status disclosed.

The largest proportion60 (32.1%) of children in this study was on AZT+3TC+NVP based regimen. About 72.7% of the children in this study were on ART for greater than 24 months. Children on cotrimoxazole prophylaxis were 81.8% while 50.3% of the children were on INH prophylaxis.

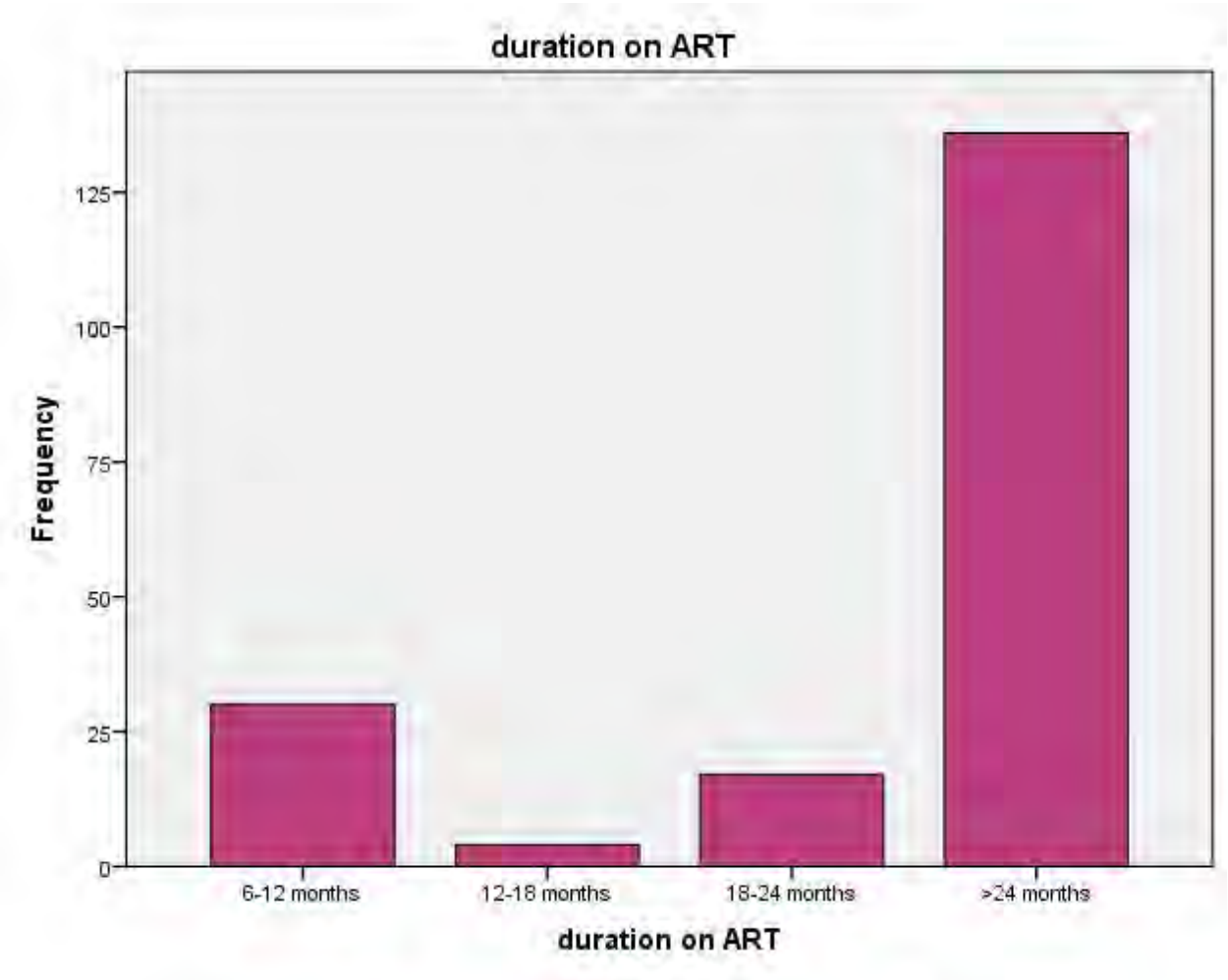

Fig 2. Duration on ART in children of Tikur Anbessa Hospital, Ethiopia, April- May 2015 (n=187)

Table 2. Clinical Characteristics of the Child and Care Giver, Tikur Anbessa Hospital, Ethiopia, April- May 2015 (n=187)

Variable		sex of child					
		male		Female		Total	
		No	%	No	%	No	%
Child HIV Status Disclosed	Yes	41	21.9%	54	28.9%	95	50.8%
	No	45	24.1%	47	25.1%	92	49.2%
Care Giver HIV Status	positive	38	20.3%	57	30.5%	95	50.8%
	negative	46	24.6%	41	21.9%	87	46.5%
	never ever tested	2	1.1%	3	1.6%	5	2.7%
Duration On ART	6-12 months	13	7.0%	17	9.1%	30	16.0%
	12-18 months	0	0.0%	4	2.1%	4	2.1%
	18-24 months	11	5.9%	6	3.2%	17	9.1%
	>24 months	62	33.2%	74	39.6%	136	72.7%
Regimen	AZT/3TC/NVP	30	16.0%	30	16.0%	60	32.1%
	AZT/3TC/EVF	15	8.0%	34	18.2%	49	26.2%
	AZT/3TC/Kaletra	10	5.3%	10	5.3%	20	10.7%

	ABC/DDI/Kaletra	12	6.4%	11	5.9%	23	12.3%
	TDF/3TC/EFV	7	3.7%	6	3.2%	13	7.0%
	TDF/3TC/NVP	0	0.0%	4	2.1%	4	2.1%
	ABC/3TC/EFV	12	6.4%	6	3.2%	18	9.6%
Adherence Level	GOOD	72	38.5%	89	47.6%	161	86.1%
	FAIR	14	7.5%	12	6.4%	26	13.9%
	POOR	0	0.0%	0	0.0%	0	0.0%
TB History	Yes	20	10.7%	32	17.1%	52	27.8%
	No	66	35.3%	69	36.9%	135	72.2%
Hospitalization History	Yes	50	26.7%	65	34.8%	115	61.5%
	No	36	19.3%	36	19.3%	72	38.5%
Cotri Prophylaxis	Yes	64	34.2%	89	47.6%	153	81.8%
	No	22	11.8%	12	6.4%	34	18.2%
INH prophylaxis	Yes	37	19.8%	57	30.5%	94	50.3%
	No	49	26.2%	44	23.5%	93	49.7%
TB on INH HAART OR BOTH	Yes	15	8.0%	15	8.0%	30	16.0%
	No	71	38.0%	86	46.0%	157	84.0%

	<100	0	0.0%	0	0.0%	0	0.0%
CD4 No	100-250	7	3.7%	13	7.0%	20	10.7%
	251-350	20	10.7%	5	2.7%	25	13.4%
	>350	59	31.6%	83	44.4%	142	75.9%
WHO stage	One	39	20.9%	40	21.4%	79	42.2%
	Two	26	13.9%	33	17.6%	59	31.6%
	three	17	9.1%	22	11.8%	39	20.9%
	four	4	2.1%	6	3.2%	10	5.3%

Variable		No	%
child hiv status disclosed	Yes	95	50.8%
	No	92	49.2%
care giver hiv status	Positive	95	50.8%
	Negative	87	46.5%
	never ever tested	5	2.7%
duration on ART	6-12 months	30	16.0%

	12-18 months	4	2.1%
	18-24 months	17	9.1%
	>24 months	136	72.7%
Regimen	AZT/3TC/NVP	60	32.1%
	AZT/3TC/EVF	49	26.2%
	AZT/3TC/Kaletra	20	10.7%
	ABC/DDI/Kaletra	23	12.3%
	TDF/3TC/EFV	13	7.0%
	TDF/3TC/NVP	4	2.1%
	ABC/3TC/EFV	18	9.6%
adherence level	GOOD	161	86.1%
	FAIR	26	13.9%
	POOR	0	0.0%
TB history	Yes	52	27.8%
	No	135	72.2%
hospitalization history	Yes	115	61.5%

	No	72	38.5%
cotri propyhlaxis	Yes	153	81.8%
INH prophylaxis	No	34	18.2%
	Yes	94	50.3%
	No	93	49.7%
TB on INH HAART OR BOTH	Yes	30	16.0%
	No	157	84.0%
CD4 No	<100	0	0.0%
	100-250	20	10.7%
	251-350	25	13.4%
	>350	142	75.9%

WHO stage	One	79	42.2%
	Two	59	31.6%
	Three	39	20.9%
	Four	10	5.3%

In this study, 168(89.8%) of the participants had taken their prescribed

ARV drugs fully for the past 7 days. Few participants 19(10.2%) did not adhere to ART. But when we consider individuals who had ever missed there dose regardless of time reference, it was observed that overall adherence rate is 86.1%.

Most frequently mention reasons of missing their dose in the last one week was forgetting (48.1%), and some were due to care givers' illness (18.5%). Moreover, quarrel among family as well as pill burden were also found to be responsible for significant proportion of reasons for missed dose during this period constituting 14.8% and 18.5% respectively [Table 3].

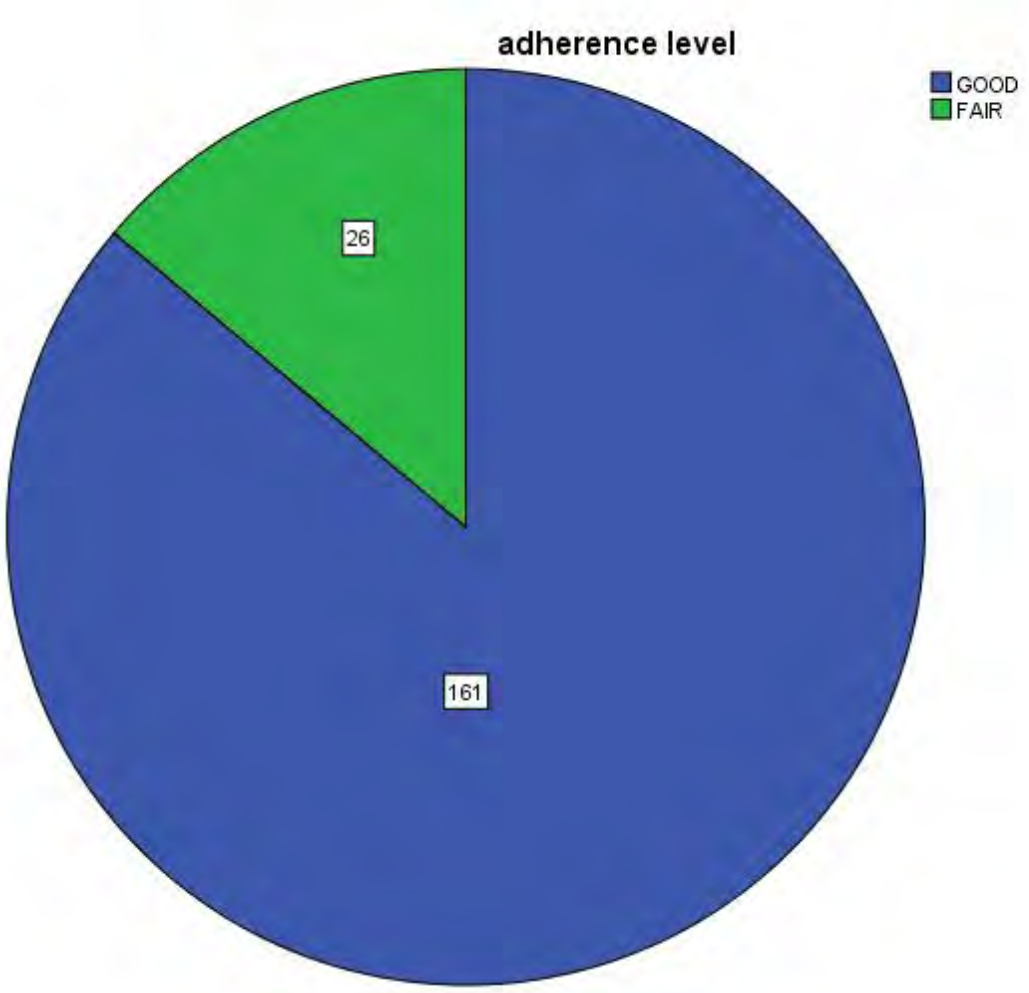

Fig3. Adherence level of children, **Tikur Anbessa Hospital, Ethiopia, April- May 2015 (n=187)**

Table 3.Adherence Rate among Pediatrics, Tikur Anbessa Hospital, Ethiopia, April-May 2015 (n=187).

Variable	category	Frequency	Percent
Ever missed dose	Yes	26	13.9
	No	161	86.1
Missed dose in the last week	Yes	19	10.2
	No	168	89.8
Most common reasons for non adherence	Forgetting	13	48.1
	ADRs	0	0
	Quarrel among family	4	14.8
	Mental problem	0	0
	Pill burden	5	18.5
	Other	5	18.5

Factors affecting adherence to ART

After controlling the effects of other variables, two variables namely occupation of the child care giver and income were found to be significantly associated with adherence to ART in children. However, factors such as living condition of the child, primary care giver, HIV status of care giver, and whether care giver is on ART or not in case of HIV positive care givers were found to affect adherence only in univariate analysis (without adjusting for confounding factors).

6. Discussion

Adherence to Antiretroviral therapy is very crucial in order to maximize the benefit of the drugs. Inadequate adherence is associated with immunological, virological failure, drugs resistance and treatment failure. The objective of this study was to determine proportion of good adherence. This study also tries to examine the different variables associated with child adherence to antiretroviral therapy in Tikur Anbessa Specialized Hospital. Clinical record review, clinical markers and socio demographic and adherence factors were assessed along with the caregiver characteristics to determine the predictors of adherence. The findings of this study were discussed in comparison to previously available literatures elsewhere in the world.

In this study, adherence rate of 87.8% was found considering patients who missed at least two doses in the last one week.

This is lower than the recommended adherence level of at least 95% to fully benefit from ART as per the recent who guideline. Similarly, it is lower than the study conducted in Soweto, South Africa (88%) and in Yirgalem Hospita (88.3%) as well as study conducted at five hospitals in Addis Ababa (86%) in Ethiopia [**37**, 7]. However, the adherence rate obtained in this study is higher than an adherence rate of 83% which was reported in two hospitals of Oromia Regional State [38], and 81.2% in three hospitals in Addis Ababa [34].in addition, the adherence level of this study is higher than the study conducted in Botswana, in which only 54% of the patients were adherent by self-report, although this increased marginally to 56% when provider assessment was used [23]. The adherence level is also higher than another study in Ethiopia conducted among 400 patients on ART [23], about 24% were non-adherent when combined indicators of dose, time and dietary instructions were used. The percentage of non-adherent patients increased to 27% after reassessment three months later.

It is established that non adherence is one of the reasons for failure of achievement of the global treatment successes [5].

The consequence of non adherence may result in an able to cure, complications such as sever disease and drug resistance, patients remain infectious [33]. The significant proportion of non adherence rate identified in this study and other similar studies in Ethiopia as well as other part of the world indicated that much work have to be done by responsible stake holders to achieve the standard adherence level of 95% to avoid problems mentioned above.

There are many barriers to HIV medication adherence and children/adolescents and their caregivers do not perceive them consistently [19, 34]. In general, in this study forgetfulness was the most common reasons for poor adherence to the medication. Similarly, study conducted in Cape Town, South Africa, showed that the most frequently reported barrier by either the caregiver or youth was “forgot” (16).The finding is also supported by the study conducted in North eastern Ethiopia, South Wollo , where the main reasons for non- adherence was forgetting (28.4.2%) [5]. Therefore, adherence counseling and health information dissemination need to include strategies to minimize forgetfulness using memory aids such as pill boxes, written schedule, and watch bell.

The existence of quarrel among family was another barrier of adherence indentified in this study. This is similar to the report from India and Uganda [21, 24]. Therefore, there should be strategy to ensure family stability such as identifying the source of quarrel and devising effective intervention to optimize adherence is vital.

Adherence behavior is influenced by many factors, which may be categorized as characteristics of the child, the caregiver(s) and family, the regimen, and society and culture [19, 36]. In this study, we found that income and occupation increased the risk of non- adherence to medication significantly and independently. This is similar to the study in Tanzania [3, 35] and Uganda, Kampala. The fact that children with care givers of low and irregular income are less likely to adhere to their regimes could be explained for example by, incomes for food, shelter, clothing and other basic needs in life is unquestionably important as for them to have enough food to eat so that they could take their drugs; otherwise the drugs made them weak and they would hesitate to take the next dose if they had an empty stomach (3). However, factors such as primary care giver of the child, living condition of the child, HIV sero- status of the care giver and whether care givers are on ART or not affected adherence only in bivariate analysis. This is in contrast to the findings that were reported previously in other studies from Ethiopia [5]. Therefore, there is a need for further study to explore the effect of such variables on medication adherence in this population.

Limitation

This study has some limitations that preclude more specific conclusions. First, adherence was assessed through a self-reporting adherence questionnaire instead of other more objective tools. People tend to overestimate adherence with self-report measures. Though efforts made during data collection to minimize the social desirability and recall biases, these may not be eliminated. Second, this study did not assess the adherence related to the correct timing for ART drug administration. Third, the cross-sectional nature of the study which used a snapshot of adherence at one point in time may hinder the accuracy of adherence.

Conclusion

Adherence rate in this study was lower than that is the recommended by WHO to be optimal. Forgetfulness was the most common reasons for poor adherence in this study. Occupation and income were found to increase the risk of non-adherence significantly and independently.

Ultimately, improved adherence can lead to a longer life and, as a recent study has shown, to improved quality of life as well.

Recommendation

Because adherence is so important in extending and improving the lives of people living with HIV and AIDS, future studies should continue to examine the factors that prevent and promote adherence.

In line with these findings we would like to recommend the following points. Much works have to be done by responsible stake holders to achieve the standard adherence level of 95% to avoid problems nonadherence.

Adherence counseling and health information dissemination need to include strategies to minimize forgetfulness using memory aids such as pill boxes, written schedule, and watch bell. There should be strategy to ensure family stability such as identifying the source of quarrel and devising effective intervention. Lastly, special attention should be given to female patients and those who started their treatment at early stages of WHO clinical stages to optimize adherence rate among pediatrics population.

improving confidence by teaching people skills to better adhere (such as setting goals that are attainable, examining the obstacles to adherence one at a time rather than all together, offering suggestions and information regarding medication taking and strategizing ways to take medication in ways that are convenient and most comfortable for patients) may significantly improve adherence.

In spite of limited efficacy-based interventions, several clinical recommendations can be made based on the literature to date. Pediatric adherence to ART is a dynamic process involving the many factors described above. While many clinical programs understandably focus on the provision of medications and management of physical disease, successful ART requires considerable attention to the complex issues of adherence. Recommended approaches must consider the psychosocial aspects of the disease, including child, caregiver and family function, as well as the resources of the child and family. These challenges are especially difficult in settings with few counselors, social workers, and mental health professionals; however, they are now understood to be as important as the drugs themselves.

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8. Annexes

Annex I. Information sheet

Information Sheet

Introduction

My name is Ketema Diriba, post-graduate student at AAU, and right now conducting a research on ART Adherence among HIV-Infected children with their primary care givers

The purpose of this study - is acknowledging the gaps that still exist in our knowledge and practice will assist policy makers and program implementers to make evidence-based decisions about how best to direct funding and program activities and maximize positive outcomes for children and their caretakers. The study findings will guide the government, non government and others to design better strategy to improve the right and care of the children on ART in the future as well as used for forward a comment on the existing care and support .

You don't have to be in this research if you don't want to be. It's up to you. If you decide not to be in the research, it is okay and nothing changes, still your care from different organization continue; everything stays the same as before. Even if you say "yes" now, you can change your mind later and it's still okay.

Risks: There are no any risks to you happen as you one of the study subjects. There has been nothing that has worried you at all. If anything unusual happens to you, however, we need to know and you should feel free and tell us anytime with your concerns or questions. The information you provide us is confident in where ever and in whatever.

Benefit: Nothing really good might happen to you. The research may not give a more concerns than the before but it later may used to revise the support system modify it as it is preferable for children all over in Ethiopia.

Incentives: no incentive is given for your participation on the study.

Confidentiality: information about you that will be collected from the research will be put away and no-one but the researchers will be able to see it. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except the researcher, Advisor and research sponsor.

Share the Findings: if you are in need of the result we can discuss with you after the research is completed. Afterwards, we will be telling more people, scientists and others, about the research and what we found. We will do this by writing and sharing reports and by going to meetings with people who are interested in the work we do.

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Annex II Questionnaire

ADDISABABA UNIVERSITY COLLEGE OF ALLIED HEALTH SCIENCES DEPARTMENT OF NURSING AND MIDWIFERY

QUESTIONER TO ASSESSART Adherence among HIV-infected children aged 2-14 in Tikur Anbessa Specialized Hospital ART clinic

Good morning/ afternoon?

My name is _____. Currently I am a graduate student at Addis Ababa University, college of Allied Health Science. I am conducting a survey to asses the awareness the Adherence of children to ART medications.

The main purpose of the survey is to collect information necessary for developing appropriate strategies and programs to prevent non-adherence and its consequences. To attain this purpose your honest and genuine participation is very important and highly appreciable. I, therefore, kindly request you to answer this questionnaire as accurately and carefully as possible.

Please be assured that all the information gathered will be kept strictly confidential and and your name or identity will not be mentioned. Only the researcher has the access of the information and used it for the study purpose only. You have a full right and decision to not respond all the questions or partly.

Are you willing to participate in the study? Yes….

No-----

Signature of Data collector ----------Name----------Date----------

Signature of supervisor ---------- Name ----------Date----------

Section I Socio-demographic Back Ground Characteristics of the Respondents			
Q 101	What is your ethnicity?	1.Oromo 2.Amara 3.Tigre 4.Gurage 5.Other	
Q 102	What is your Religion	1.Orthodox Christian 2.Muslim 3.Catholic 4.Protestant 5.Other, specify_____	
Q 103	How often you go to the church / mosque?	Daily 1 Once in a week 2 Occasionally 3 Accidentally 4 More than once in a week (specify)_____5	
Q 104	Living condition, with whom do you live??	1. With parents 2 Other than parents Sex of care givers	
Q 105	Residence of child/caregiver	1.urban 2. rural	
Q 106	Marital status of care giver	1.Single 2.Married 3.separated 4.Divorced 5.widowed 6.others (specify)	
Q 107	What is the educational status of your parents or care giver?	1.Illiterate 2. Primary education	

		3.Secondary education 4.Above secondary	
Q 108	What is the occupational status of your care giver?	1 .farmer 2 .merchant 3. Employee 4. jobless	
Q 109	What is the income of caregiver?	1.<200 ETB 2.200-500ETB 3 .>500ETB	
Q 110	Do you talk/discuss about reproductive health issues with your mother?	Yes 1 No 2	
Section II. clinical characteristics of child and care giver			
Q 201	Is the child's HIV status disclosed?	1. yes 2 . no	
Q 202	What is the care giver's HIV status?	1. positive 2. negative 3. not ever tested Other, specify _____	If positive, Q 204
Q 203	If you are not ever tested, what is your reason?	1. Fear of stigma and discrimination 2. Social exclusion	
Q 204	Are you on ART	Yes 1	If yes, Q

		No 2	206
Q205	How long the child has been on ART?	6-12 MONTHS 12-18 MONTHS 18-24 MONTHS >24 MONTHS	
Q 205	IF the child is ON ART, WHICH REGIMEN?	D4T+3TC+NVP D4T+3TC+EFV AZT+3TC+NVP AZT+3TC+EFV	
Q 206	What is the provider estimate of adherence?	1. Good 2. Fair 3. Poor	
Q 207	What is child's TB history ?	1. Has history o tb 2 . Has no history of tb	
Q20 8	Have the child ever been hospitalized?	1. yes 2. no	
Q20 9	Have you taken cotrimoxazole prophylaxis?	1 . yes 3. no	
Q21 0	Have you taken INH prophylaxis?	1. yes 2 .no	
	Is TB developed while the child is on INH, HAART or both	1. Yes 2. No	

Q21 1	What is the CD+4 count?	1. <100 2. 100-250 3. 251-350 4. >350	
Q21 4	**What is WHO clinical stage of the child?**	1 stage 1 2 stage 2 Stage 3 Stage 4	
Q21 6	Have you ever missed your medication?	1. Yes 2. No	
	Have you missed the medication in the last week?	Yes No	
Q 301	If 'Yes', what is your reason to miss your medication?	1.forgetting 2. due to adverse reaction 3. quarrel among family 4.Pill burden 5. mental problems 6. others (specify)	
History of Substance Abuse			
	Have you ever chewed khat?	1. Yes 2. No If yes for what purpose? 1. Relax 2. Alert 3. Fearless 4. Stress relieve 5. Social concern	

		6. others specify	
	Have you ever smoked, chewed, or sniffed any tobacco product (such as cigarettes,cigars, pipe tobacco, chewing tobacco)?	1. Yes 2. No If yes for what purpose? ---------- ------	
History of depression(adapted from Center for Epidemiological Studies Depression Scale for Children (CES-DC)			
	DURING THE PAST WEEK 1. I was bothered by things that usually don't bother me. 2. I did not feel like eating, I wasn't very hungry. 3. I wasn't able to feel happy, even when my family or friends tried to help me feel better. 4. I felt like I was just as good as other kids. 5. I felt like I couldn't pay attention to what I was doing.	Not At All A Little Some A Lot Not At All A Little Some A Lot Not At All A Little Some A Lot Not At All A Little Some A Lot Not At All A Little Some A Lot Not At All A Little Some A	

	DURING THE PAST WEEK 6. I felt down and unhappy. 7. I felt like I was too tired to do things. 8. I felt like something good was going to happen. 9. I felt like things I did before didn't work out right. 10. I felt frightened. 11. I didn't sleep as well as I usually sleep.	Lot Not At All A Little Some A Lot Not At All A Little Some A Lot Not At All A Little Some A Lot Not At All A Little Some A Lot	

<u>አባሪ 1 የመረጃ ቅጽ</u>

አዲስ አበባ ዩኒቨርስቲ የተባበሩት የጤና ሳይንስ ኮሌጅ የነርሲንግና ሚድዋይፈሪ ዲፓርትመንት

ስሜ ---------- የአዲስ አበባ ዩኒቨርስቲ ድህረ ምረቃ ተማሪ ሲሆን በአሁኑ ጊዜ ከኤችአይቪ ጋር የሚኖሩ ህጻናት ከቀዳሚ እንክብካቤ አድራጊያቸው ጋር የኤችአይቪ ኤድስ መድሃኒት በቀጣይነት አወሳሰዳቸው ላይ ጥናት እያደረኩ ነው፡፡

የዚህ ጥናት አላማ በእውቀታችንና ተሞክሯችን መካከል ያለውን ክፍተት ለመለየትና የፖሊሲ አውጪዎችንና ፕሮግራም አስፈጻሚዎች ለህጻናትና ለተንከባካቢዎቻቸው የተሻለ ውጤት ለማስገኘት ተመራጭ የፈንድ እና ፕሮግራም አተገባበር ላይ በመረጃ የተደገፈ ውሳኔ መስጠት እንዲችሉ ለማገዝ ነው፡፡ የጥናቱ ግኝት ለወደፊት በኤአርቲ ላይ የህጻናትን መብትና እንክብካቤ ለማሻሻል የተሻለ እስትራቴጂ ለመቀየስ እንዲችሉ መንግስትን፣ መንግስታዊ ያልሆኑ ድርጅቶችና ሌሎችን የሚያግዝና ባለው እንክብካቤና ድጋፍ ላይ አስተያየት የሚሰጥ ይሆናል፡፡

በዚህ ጥናት ውስጥ መሳተፍ ካልፈለጉ አለመሳተፍ ይችላሉ፡፡ ምርጫዎት ነው፡፡ በዚህ ጥናት ውስጥ መሳተፍ ካልፈለጉ ምንም የሚለወጥ ነገር አይኖርም፡፡ ከተለያዩ ድርጅቶች የሚሰጡት እንክብካቤ ይቀጥላል፡፡ ሁሉም ነገር እንደነበረው የሚቀጥል ይሆናል፡፡ አሁን "አዎ" ቢሉም እንኳ በኋላ ሀሳብዎን መቀየር ይችላሉ፡፡

ስጋቶች፡ እርስዎ የጥናቱ ባለቤት በመሆንዎ ምንም የሚያሰጋዎት ነገር አይኖርም፡፡ በአጠቃላይ የሚያሰጋዎት አንዳችም ነገር የለም፡፡ ነገር ግን ያልተለመደ ነገር ካገጠመዎት በማንኛውም ጊዜ ነጻ ሆነው ያለዎትን ስጋትና ጥያቄ እንዲነግሩን እንፈልጋለን፡፡ የሚሰጡን መረጃ በየትኛውምና በምንም አይነት መልኩ ሚስጥሩ የተጠበቀ ይሆናል፡፡

ጥቅም፡ በዚህ ጥናት ውስጥ በመሳተፍዎ የሚሰጥዎት ጥቅም የለም፡፡ ጥናቱ ቀደም ብሎ ከነበረው ስጋት የበለጠ የሚያመጣው ስጋት የለም፡፡ ነገር ግን ለወደፊት ያለውን የድጋፍ ስርዓት ለመመዘንና በኢትዮጵያ ውስጥ ለሁሉም ህጻናት በሚመች መልኩ ስርዓቱን የሚያሻሽል ይሆናል፡፡

ማበረታቻ፡ በጥናቱ ላይ በመሳተፍዎት የሚሰጥዎት ምንም አይነት ማበረታቻ አይኖርም፡፡

ሚስጥርስለመጠበቅ፡ ለጥናቱ ከእርስዎ የሚሰበሰበው መረጃ በሚስጥርነት የሚያዝና ከአጥኚው በስተቀር ሌላ ሰው አያየውም፡፡ ማንኛውም ስለ እርስዎ የሚሰበሰብ መረጃ በስምዎ ምትክ ቁጥር የሚሰጠው ይሆናል፡፡ የእርስዎን ቁጥር የሚያውቀው አጥኚው ብቻ ሲሆን መረጃው በቁልፍ የሚቆለፍ ይሆናል፡፡ ከአጥኚው፣ ከአማካሪው እና ከጥናቱ እስፖንሰር አድራጊ በስተቀር መረጃው ለማንም ሌላ ሰው ተላልፎ አይሰጥም፡፡

ግኝቶቹን ስለመግለጽ፡ እርስዎ የጥናቱን ግኝት ማወቅ ከፈለጉ ጥናቱ ካለቀ በኋላ ከእርስዎ ጋር መወያየት እንችላለን፡፡ ከዛ በኋላ ሌሎች ሰዎች ሳይንቲስቶች እና ሌሎች ስለጥናቱ ውጤት ግኝት የምናካፍል ይሆናል፡፡ ይህንን የምናደርገው በጽሁፍ ሲሆን በሪፖርት ስራችንን ለማወቅ ፍላጎት ካላቸው ሰዎች ጋር በመገናኘት ነው፡፡

የዋና አጥኚው አድራሻ፡ ከተማ ድሪባ ዋሪ

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ስልክ 0921 77 75 58

<u>አባሪ 2 የጥናቱ መጠይቅ</u>

አዲስ አበባ ዩኒቨርስቲ የተባበሩት የጤና ሳይንስ ኮሌጅ የነርሲንግና ሚድዋይፈሪ ዲፓርትመንት

ስሜ ---------- የአዲስ አበባ ዩኒቨርስቲ ድህረ ምረቃ ተማሪ ሲሆን በአሁኑ ጊዜ እድሜያቸው ከ2-14 የሆኑ በጥቁር አንበሳ እስፔሻላይዝድ ሆስፒታል ኤአርቲ ክሊኒክ የኤአርቲ አወሳሰድ ለመመዘን የቀረበ መጠይቅ

እንደምን አደሩ/እንደምን ዋሉ?

ስሜ ---------- ይባላል በአሁኑ ጊዜ በአዲስ አበባ ዩኒቨርስቲ የተባበሩ ጤና ሳይንስ ኮሌጅ የድህረ ምረቃ ተማሪ ነኝ፡፡ የኤአርቲ ህክምና ላይ ህጻናት ያላቸውን ግንዛቤ ለመመዘን ጥናት እያካሄድኩ ነው፡፡ የዚህ ጥናት ዋና አላማ መድሃኒት አለመቀጠልና የሚያስከትለውን ውጤት ለመከላከል ተገቢ እስትራጂዎችና ፕሮግራሞችን ለማዘጋጀት አስፈላጊ የሆኑ መረጃዎችን ለመሰብሰብ ነው፡፡ ይህንንም ግብ ለማሳካት እርስዎ በታማኝነት እና ከልብ በመሳተፍ የሚሰጡን መረጃ እጅግ

ጠቃሚና የላቀ ምስጋና የሚሰጠው ነው፡፡ ስለዚህ እነዚህ መጠይቆች በተቻለዎት መጠን በትክክልና በጥንቃቄ ምላሽ እንዲሰጡ በትህትና እጠይቃለሁ፡፡

እባክዎን የሚሰጡን መረጃ ሁሉ በሚስጥርነት የሚያዝ ሲሆን ስምና ማንነትዎ ይፋ አይደረግም፡፡ ስለ እርስዎ መረጃ የሚያውቀው አጥኚው ብቻ ሲሆን መረጃውንም ለጥናቱ አላማ ብቻ የሚያውለው ይሆናል፡፡ ጥያቄዎቹን በሙሉም ሆነ በከፊል ያለመመለስ ሙሉ መብት አለዎት፡፡ ለመሳተፍ ፈቅደዋል? አዎ ☐ አልሳተፍም ☐ እናመሰግናለን፡፡

ክፍል 1፡ የተሳታፊው ማህበራዊ ሁኔታ			
ጥያቄ 101	ብሄርህ/ሽ ምንድነው?	1. ኦሮሞ 2. አማራ 3. ትግሬ 4. ጉራጌ 5. ሌላ	
ጥያቄ 102	ሀይማኖትህ/ሽ ምንድነው?	1. ኦርቶዶክስ ክርስትያን 2. ሙስሊም 3. ካቶሊክ 4. ፕሮቴስታንት 5. ሌላ ካለ ይግለጹ	
ጥያቄ 103	ምን ያህል ጊዜ ቤተክርስትያን /መስጊድ ትሄዳለህ/ሽ?	በየቀኑ 1 በሳምንት አንድ ጊዜ 2 አልፎ አልፎ 3 በኢጋጣሚ 4 በሳምንት ከአንድ ጊዜ በላይ (ይግለጹ)-------5	
ጥያቄ 104	የሚኖሩበት ሁኔታ፣ ከማን ጋር ትኖራለህ/ሽ?	1. ከወላጆች ጋር 2. ከወላጆች ሌላ የተንከባካቢው ጸታ	
ጥያቄ 105	የልጁ አድራሻ/ ተንከባካቢው	1. ከተማ 2. ገጠር	

ጥያቄ 106	የተንከባካቢው የጋብቻ ሁኔታ	1. ያላገባ 2. ያገባ 3. የተለያየ 4. የተፋታ 5. ባል/ሚስት የሞተበት 6. ሌላ (ይግለጹ)	
ጥያቄ 107	የቤተሰብ ወይም የተንከባካቢው የትምህርት ደረጃ?	1. ያልተማረ/ች 2. 1ኛ ደረጃ ትምህርት 3. 2ኛ ደረጃ ትምህርት 4. ከሁለተኛ ደረጃ በላይ	
ጥያቄ 108	የተንከባካቢው የስራ ሁኔታ?	1. ገበሬ 2. ነጋዴ 3. ተቀጣሪ 4. ስራ አጥ	
ጥያቄ 109	የተንከባካቢው ገቢው ምን ያህል ነው?	1. <200 የኢትዮጵያ ብር 2. 200-500የኢትዮጵያ ብር 3. > 500የኢትዮጵያ ብር	
ጥያቄ 110	ስለ ስነ ተዋልዶ ጤና ጉዳዮች ከእናትዎ ጋር ይወያያሉ/ያወራሉ?	አዎ 1 የለም 2	
ጥያቄ 111	ስለ ስነ ተዋልዶ ጤና ጉዳዮች ከእናትዎ ጋር ይወያያሉ/ያወራሉ?	አዎ 1 የለም 2	
ክፍል 2፡ የህጻኑና የተንከባካቢዋ የጤና ሁኔታ			
ጥያቄ 201	የህጻኑ ኤችአይቪ ደረጃ ተገልጽዋል?	1. አዎ 2. የለም	
ጥያቄ 202	የተንከባካቢዋ የኤችአይቪ ሁኔታ ምን ደረጃ ላይ ነው ያለው?	1. ፖዘቲቭ 2. ኔጌቲቭ 3. ተመርምሬ አላውቅም ሌላ ካለ ይግለጹ----------	ጥሩ ከሆነ ጥያቄ 204
ጥያቄ 203	እስካሁን ተመርምረው የማያውቁ ከሆነ ምክንያትዎ ምንድን ነው?	1. አድሎና መገለልን በመፍራት 2. ማህበራዊ መገለል	

ጥያቄ 204	የኤች አይቪ ኤድስ መድሃኒት እየወሰዱ ነው?	አዎ 1 የለም 2	አዎ ከሆነ ጥያቄ 206
ጥያቄ 205	ህጻኑ የኤች አይቪ መድሀኒት ለምን ያህል ጊዜ ወስዷል?	6-12 ወራት 12-18 ወራት 18-24 ወራት >24 ወራት	
ጥያቄ 205	ህጻኑ የኤችአይቪ መድሃኒት እየወሰደ ከሆነ የትኛውን ምድብ ነው?	ዲ4ቲ+3ቲሲ+ኤንቪፒ ዲ4ቲ+3ቲሲ+ኢኤፍቪ ኤዜድቲ+3ቲሲ+ኤንቪፒ ኤዜድቲ+3ቲሲ+ኢኤፍቪ	
ጥያቄ 206	የአቅራቢው ቀጣይነት ሁኔታ ግምት ምን ያህል ነው?	1. ጥሩ 2. አጥጋቢ 3. ዝቅተኛ	
ጥያቄ 207	የህጻኑ የቲቪ ታሪክ	1. የቲቪ ታሪክ አለው 2. የቲቪ ታሪክ የለውም	
ጥያቄ 208	ህጻኑ የህክምና እንክብካቤ ተደርጎለት ያውቃል?	1. አዎ 2. የለም	
ጥያቄ 209	ኮትሪሞክሳዞል ፕሮፊልያክስስ ወስደው ያውቋሉ?	1. አዎ 2. የለም	
ጥያቄ 210	አይኤምኤች ፕሮፊልያክስስ ወስደው ያውቃሉ?	1. አዎ 2. የለም	
ጥያቄ 211	ቲቪ ህጻኑ ላይ የተከሰተው በአይኤንኤች፣ ኤችኤኤአርቲ ወይም በሁለቱም ላይ እያለ ነው?	1. አዎ 2. የለም	
ጥያቄ 212	የሲዲ4 ምልክቱ ምን ያህል ነው?	1. <100 2. 100-250 3. 251-350 4. >350	
ጥያቄ 213	የህጻኑ የደብሊውኤችኦ ደረጃ የትኛው ነው?	1 ደረጃ 1 2 ደረጃ 2 ደረጃ 3	

		ደረጃ 4	
ጥያቄ 214	ህክምናውን አቋርጠው ያውቃሉ?	1. አዎ 2. የለም	
ጥያቄ 215	ባለፈው ሳምንት ህክምናውን አቋርጠው ያውቃሉ?	1. አዎ 2. የለም	
ጥያቄ 216	መልስዎ አዎ ከሆነ ህክምናውን ያቋረጡበት ምክንያት ምን ነበር?	1. ረስቼ 2. ህክምናው ጉዳት ስላለው 3. በቤተሰብ ፀብ 4. የመድሃኒት ጫና 5. የአእምሮ ችግር 6. ሌላ ካለ ይገለጽ	
የአደንዛዥ እጽ ታሪክ			
ጥያቄ 217	ጫት ቅመው ያውቃሉ?	1. አዎ 2. የለም መልስዎ አዎ ከሆነ ለምን አላማ ? 1. ለመፍታታት 2. ለመነቃቃት 3. ፍርሃትን ለማስወገድ 4. ድብርትን ለማስወገድ 5. ለማህበራዊ ሁኔታ 6. ሌሎች ካሉ ይግለጹ	
ጥያቄ 218	ማንኛውንም የትንባሆ ምርት (ሲጋራ፣ ፒፓ፣ እና የሚታኘክ ትንባሆ የመሳሰሉትን) አጭሰው አኝከው ወይም በአፍንጫዎ ስበው ያውቃሉ?	1. አዎ 2.የለም መልስዎ አዎ ከሆነ ለምን ምክንያት?	
የጭንቀት ታሪክ (የህጻናት የጭንቀት ደረጃ ኢፒዶሎሞጂካል ጥናት ማእከል የተወሰደ)			
ጥያቄ 219	ባለፈው ሳምንት 1. ሁል ጊዜ በማያሳስቡኝ ጉዳዮች ላይ አስቤ ነበር	 በፍጹም የለም ትንሽ ጥቂት ብዙ	
	2. የመብላት ስሜት የለኝም፡፡ በጣም	በፍጹም የለም	

	አልራበኝም	ትንሽ ጥቂት ብዙ	
	3. ቤተሰቦቼ ወይም ጓደኞቼ የተሻለ ስሜት እንዲኖረኝ ቢያግዙኝም እንኳን የደስታ ስሜት እንዲሰማኝ ማድረግ አልችልም	በፍጹም የለም ትንሽ ጥቂት ብዙ	
	4. እንደሌሎቼ ህጻነት ጥሩ እንደሆንኩ ይሰማኛል	በፍጹም የለም ትንሽ ጥቂት ብዙ	
	5. እየሰራሁ ላለው ነገር ትኩረት መስጠት እንደማልችል ይሰማኛል	በፍጹም የለም ትንሽ ጥቂት ብዙ	
	ባለፈው ሳምንት 6. ጥሩ ያልሆነ ስሜትና ደስተኛ እንዳልሆንኩ ተስምቶኛል	በፍጹም የለም ትንሽ ጥቂት ብዙ	
	7. የሆኑ ነገሮችን ለመስራት በጣም እንደ ደከመኝ ይሰማኛል	በፍጹም የለም ትንሽ ጥቂት ብዙ	
	8. ጥሩ ነገር ሊከሰት እንደሆነ ይሰማኛል	በፍጹም የለም ትንሽ ጥቂት ብዙ	
	9. ከዚህ በፊት ያረኳቸው ነገሮች አሁን ትክክል እንዳልሆኑ ይሰማኛል	በፍጹም የለም ትንሽ ጥቂት ብዙ	
	10. ፍርሃት ተስምቶኛል	በፍጹም የለም	

		ትንሽ ጥቂት ብዙ	
	11. ሌላ ጊዜ እንደምተኛው መተኛት አልተኛሁም		

አባሪ 3፡ የህጻናት ቤተሰብ ወይም ተንከባካቢ ፈቃድ ቅጽ

እድሜያቸው ከ2-14 የሆኑ በኤችአይቪ የተያዙ ህጻናት በጥቁር አንበሳ እስፔሻላይዝድ ሆስፒታል ኤአርቲ ክሊኒክ የኤችአይቪ መድሃኒት ክትትል

ይህ የሚገለጽ የፈቃደኝነት እድሚያቸው ከ2-14 ዓመት የሆኑ ህጻናት ወላጆች/ተንከባካቢዎች የኤአርቲ ክትትል እና ተጽእኖ የሚያደርጉ ጉዳዮች ጥናት ላይ እንዲሳተፉ የምንጠይቃቸው በጥቁር አንበሳ እስፔሻላይዝድ ሆስፒታል ኤአርቲ ክሊኒክ ላሉት የሚያገለግል ነው፡፡

ዋና አጥኚ፡ ከተማ ድሪባ

ተቋም፡ አዲስ አበባ ዩኒቨርስቲ የጤና ሳይንስ ኮሌጅ የተባበሩት ጤና ት/ቤት የነርሲንግና ሚድዋይፊሪ ዲፓርትምነት

የፕሮጀክቱ ስም፡ እድሜያቸው ከ2-14 የሚሆኑ ከኤችአይቪ ጋር የሚኖሩ ህጻናት በጥቁር አንበሳ እስፔሻላይዝድ ሆስፒታል ኤአርቲ ክሊኒክ የኤች አይቪ መድሃኒት ክትትል፡ 2015 ኢትዮጵያ

ስሜ ---------- የአዲስ አበባ ዩኒቨርስቲ ድህረ ምረቃ ተማሪ ሲሆን በአሁኑ ጊዜ ከኤችአይቪ ጋር የሚኖሩ ህጻናት ከቀዳሚ እንክብካቤ አድራጊያቸው ጋር የኤችአይቪ ኤድስ መድሃኒት በቀጣይነት አወሳሰዳቸው ላይ ጥናት እያደረኩ ነው፡፡ መረጃ ሰጥቼዎት ህጻኑ በዚህ ጥናት ውስጥ እንዲሳተፍ እንዲያደርጉ እጋብዛለሁ፡፡ ከመወሰንዎ በፊት ደስ ካላችሁ ሰው ጋር ስለ ጉዳዩ ማውራት ይችላሉ፡፡ እርስዎ የማይረዱት የተወሰኑ ቃላቶች ሊኖሩ ይችላሉ፡፡

እባክዎን ይህንን መረጃ መግለጽ እንደቀጠልኩ ያስቁሙኝና ለማብራራት ጊዜ እወስዳለሁ፡፡ በኋላ ጥያቄ ካለዎት በማንኛውም ጊዜ ሊጠይቁኝ ይችላሉ፡፡

የዚህ ጥናት አላማ በእውቀታችንና ተሞክሯችን መካከል ያለውን ክፍተት ለመለየትና የፖሊሲ አውጪዎችንና ፕሮግራም አስፈጻሚዎች ለህጻናትና ለተንከባካቢዎቻቸው የተሻለ ውጤት ለማስገኘት ተመራጭ የፈንድ እና ፕሮግራም አተገባበር ላይ በመረጃ የተደገፈ ውሳኔ መስጠት እንዲችሉ ለማገዝ ነው፡፡ የጥናቱ ግኝት ለወደፊት በኤአርቲ ላይ የህጻናትን መብትና እንክብካቤ ለማሻሻል የተሻለ እስትራቴጂ ለመቀየስ እንዲችሉ መንግስትን፣ መንግስታዊ ያልሆኑ ድርጅቶችና ሌሎችን የሚያግዝና ባለው እንክብካቤና ድጋፍ ላይ አስተያየት የሚሰጥ ይሆናል፡፡

በዚህ ጥናት ውስጥ መሳተፍ ካልፈለጉ አለመሳተፍ ይችላሉ፡፡ ምርጫዎት ነው፡፡ በዚህ ጥናት ውስጥ መሳተፍ ካልፈለጉ ምንም የሚለወጥ ነገር አይኖርም፡፡ ከተለያዩ ድርጅቶች የሚሰጡት እንክብካቤ ይቀጥላል፡፡ ሁሉም ነገር እንደነበረው የሚቀጥል ይሆናል፡፡ አሁን ‘‘አዎ’’ ቢሉም እንኳ በኋላ ሀሳብዎን መቀየር ይችላሉ፡፡

በጥናቱ መሳተፍ ይፈልጋሉ? አዎ አልፈልግም

አመሰግናለሁ፡፡

ከተማ ድሪባ ስለጥናቱ ጥያቄ ካለን ወይም እንደ ጥናቱ ተሳታፊ ያለኝን መብት በተመለከተ ለመጠየቅ እንደምችል ተገንዝቤያለሁ፡፡

የተሳታፊ ስም፡

ካልሆነ ወደ ሌላ ተሳታፊ ይሂዱ

የቃለ መጠይቅ ቀን

የተጀመበረት ሰዓት

የተጠናቀቀበት ሰዓት

የቃለ መጠይቅ አድራጊ

የሱፐር ቫይዘር ስም ፊርማ

የኢንተርቪው መጠይቅ ውጤት

1. ተሞልቷል
2. አልተሞላም
3. በከፊል ተሞልቷል

Consent form for family or care givers of children

ART Adherence among HIV infected children aged 2-14 in Tikur Anbessa Specialized Hospital ART Clinic

This informed consent form is for the parents / primary care givers of children between the ages of 2 -14 years, who we are asking to participate in the study of ART Adherence and factors affecting it, here in Tikur Anbessa Specialized Hospital ART Clinic.

My name is Ketema Diriba, Addis Ababa university post-graduate student, currently conducting research on ART Adherence and factors affecting it among HIV infected childen.

I am going to give you information and invite you to have your child participate in this research. Before you decide, you can talk to anyone you feel comfortable with. There may be some words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask me where ever and when ever.

> The purpose of this study - is to collect information necessary for developing appropriate strategies and programs to prevent non-adherence and its consequences and will assist policy makers and program implementers to make evidence-based decisions about how best to direct funding and program activities and maximize positive outcomes for children and their caretakers. The study findings will guide government, non-government organizations and others to design better strategy to improve the right and care of HIV Infected children in the future as well as used to forward comment on the existing care and support to revise the approach how to care for. We are inviting your children to take part in this research because it is important that to identify the factors that contribute to or associate with non-adherence.Are you willing to participate? Yes No Thank you.