



A Study on the assessment of HIV related emergency visit during the HAART era in six public hospitals of Addis Ababa

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Acronyms

AAU: Addis Ababa University

AIDS: Acquired Immunodeficiency Syndrome

ARV: Antiretroviral Therapy

FHAPCO: Federal HIV/AIDS Prevention and control office,

FMOH: Federal Ministry of Health

HAART: Highly Active Antiretroviral Therapy

MOH: Ministry of Health

UNAIDS: United Nation Agency for International Development

ED: Emergency Department

DVT: Deep venous thrombosis

AKI: Acute kidney injury

AGE: Acute gastro interties

ARD: Acute respiratory disease

OI: opportunistic infection

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Summary

Back ground: HIV associated medical emergencies are common emergency department presentations in high-prevalence settings. Diagnosis and management of HIV infected patients who visit Emergency clinic recently require knowledge of the disease's pattern and the life threatening complications associated with it.

Objective: The main objective of this study is *assessment of HIV related emergency visit during the HAART era in six public hospitals of Addis Ababa*

Methods: The study is cross-sectional and was conducted from January, 2015 to March, 2015 at six A.A Public Hospitals for a total of 422 patients.

Result: There were a total of 18090 emergency department visits in the study hospitals during the specified period of which 422 (2.3%) were HIV infected patients and included in this study. Over two-thirds of the study subjects (N=278, 65.9%) were females with a female to male ratio of 2:1. About more than half of the patients (64.7%) were on first line HAART. Significant number of the PLHIV 42.9% had a CD4 count of <200 cells/ul, and 45.7% had a CD4 count between 200-499 cells/ul. The majority (42.4%) of the HIV patients coming to the emergency department were between the ages of 35-44 years. Hypovolumic shock secondary to diarrhea and vomiting (N=70, 16.7%), Pneumonia (N= 64, 15.2%), Anemia (N=52, 12.3%), Tuberculosis, Acute gastro-enteritis (N=35, 8.3%) and drug-induced liver injury (N=28, 6.6%) were the leading causes of ED visits among HIV infected patients. Concerning age and sex distribution on the HIV infected patients coming to emergency department, we found that pneumonia is the leading cause of diseases for age groups between 35-45 years old which mostly affected the females. Most of the diseases also are mostly manifested on females comparing than male HIV patients. From the study we can also see that most 132(31.3%) of the females are found in the fourth WHO staging comparing to the males 57(13.5%).

It was identified that most of the patients 80.1% were treated for at least one kind of HIV related emergency illness in the past. Majority of the people living with HIV who came to emergency departments due to hypovolumic shock secondary to diarrhea and vomiting 16.7% followed by pneumonia 15.2% and anemia 12.3% Pulmonary tuberculosis 10.1%, and Acute Gastro Enteritis 8.3%.

Conclusion: The findings indicate that HIV/AIDS patients have a frequent need for emergency care and most HIV/AIDS hospitalizations are emergency-related. The acute problems of these patients are related to a hypovolumic shock secondary to diarrhea and vomiting, pneumonia and anemia. It is the middle age groups that are at high risk for emergency illness. To facilitate early HIV diagnosis and early initiation of HAART, all stakeholders in the region must make concerted effort to expand and implement voluntary counseling and testing as well as the provider-initiated testing and counseling, even as new strategies are developed to detect early infection for prompt initiation of HAART, when necessary. An HIV associated emergency should therefore be a strong consideration for any critically ill patient, especially in high prevalence regions.

1. Introduction

1.1 Background

HIV/AIDS is pandemic disease which affects every part of the globe. It has had destructive impacts to people economical, social, psychological, and political wellbeing in addition to the health impacts on adult. According to the 2013 estimates of UNAIDS global report, around 35 million [33.2 million–37.2 million] people were living with HIV. In the same report Worldwide, 2.1 million [1.9 million–2.4 million] people became newly infected with HIV (UNAIDS, 2013) (1). Sub Saharan Africa remained the most affected region in the global AIDS epidemic. An estimated 1.5 million [1.3 million – 1.6 million] newly infected in 2013, contributing to total of 24.7 million [23.5 million – 26.1 million] people living with HIV in the region. The region is home for 70% of total HIV Cases globally. In addition, an estimated 1.1 million people died of AIDS related causes in 2013(UNAIDS, 2013). (1)

Ethiopia is one of the most affected sub Saharan Africa countries by HIV/AIDS pandemic. According to the single point HIV prevalence estimate by federal HIV/AIDS prevention and control office (FHAPCO, 2014) Report, adult HIV prevalence rate was (3.3%urban and 0.5%rural) (6). According to HAPCO single point estimate in 2014within an estimated 711,446 of total PLHIV in the country (6)

According to federal ministry of health (FMOH),health and health related indicators 2014 report ,an estimated 84,811 People were living with HIV in Addis Ababa, the prevalence rate being 4.1%.There were 2,545 deaths in the same year(MOH,2014). (5) More than 84,811 individuals in Addis Ababa are HIV positive, with greater than 2,023 new patients being diagnosed per year (5).With the advent of highly active antiretroviral therapy (HAART) 2003, HIV-infected patients in Addis Ababa and those with access to HAART worldwide are living longer. Since the beginning of the HIV epidemic, HIV-infected patients have commonly presented to the emergency department(ED).As aresult, the emergency medicine literature from the pre HAART era includes extensive reviews of the infectious complications; both opportunistic and otherwise that can bring these individuals to the ED. Since widespread use of HAART, the spectrum of illness and medication-related complications in HIV-infected patients have changed. It has become more

common to see emergency presentations and hospitalizations because more common of complications unrelated to opportunistic infections. Illness related to cardiovascular disease, medication adverse effects, and malignancies have become more prevalent in patients with HIV. (3) With these changes in presentation, the challenges for emergency physicians caring for HIV-infected patients have become more complex. This Study will review the major emergency complications of patients with HIV in the HAART era, with an emphasis on the noninfectious and changing infectious disease processes that require emergency care. This Study will allow emergency physicians to more easily access and treat HIV-infected patients who present to the ED.

1.2 RATIONALE OF THE STUDY

The emergency centre (EC) is an important point of diagnosis of new infections and care for conditions related to those infections. The impact and epidemiology of HIV/AIDS-related medical emergencies presenting to ECs across ETHIOPIA is unknown. It is dictated by the national prevalence of HIV, the availability of HAART, and the expertise of the primary health system. HIV-positive patients are susceptible to a variety of life threatening conditions including tuberculosis, bacterial pneumonia, meningitis, diarrhea, malignancies, and a wide spectrum of medication side effects (3)

However, there is no study in Ethiopia but many factors predispose patients to seek emergency care. More than 86,549 individuals in Ethiopia are HIV positive and more than 2,023 new patients being diagnosed per year (MOH, 2013) (5). With the advent of highly active anti retroviral therapy (HAART) HIV-infected patients in Ethiopia and those with access to HAART Worldwide are living longer.

In Addis Ababa public hospitals many pts visit emergency department for Emergency care. In HIV AIDS Patients epidemiological and clinical variables that may be potentially predictive of disposition in HIV emergencies can be categorized into different group like Changing Epidemiology of Disease burden, HAART Regimens, adverse events, and Drug interaction.

This study will describe what variables that may be potentially predictive of disposition in emergency clinic related to their HIV infection in the era of HART, and information obtained from this study will help to health care providers, policy makers, and other stakeholders in Ethiopia

in the provision of required diagnostic and therapeutic facilities in hospitals according to prevalent diseases, and in the preemptive management HIV-related clinical complications, as well as in the prevention of HIV-related morbidities and mortalities.

Moreover, it provides emergency physicians easily access and treat HIV infected patients who present to the ED in early and close consultation with their primary care and infectious disease physicians.

2.LITERATURE REVIEW

Acquired immune deficiency syndrome (AIDS), one of the most destructive epidemics in human history, created an enormous challenge to mankind. It has claimed around 35 million [33.2 million–37.2 million] people living with HIV. In the same report Worldwide, 2.1 million [1.9 million–2.4 million] people became newly infected with HIV (UNAIDS, 2013). (1)

Addressing the HIV/AIDS pandemic has been the leading global health challenge of the past two decades. Although its scope has been global, the disease has been particularly devastating in the African continent. Despite the increasing availability of highly active antiretroviral therapy (HAART), the disease remains the leading cause of death across many countries in Sub-Saharan Africa. According to UNAIDS, 2013 (1) the region has over 1.5 million [1.3 million – 1.6 million] individuals infected with HIV, 70% of the global total. In sub-Saharan Africa, which includes several countries with the world's highest prevalence of HIV, an estimated 1.1 million [1.0 million – 1.3 million] people died of AIDS related causes in 2013. The emergency centre (EC) is an important point of diagnosis of new infections and care for conditions related to those infections. The impact and epidemiology of HIV/AIDS-related medical emergencies presenting to ECs across Africa is unknown, but can be assumed to be country specific. It is dictated by the national prevalence of HIV, the availability of HAART, and the expertise of the primary health system (1)

Different studies showed that many factors that dispose HIV patient to seek emergency care, like Changing Epidemiology of Disease Burden , HAART Regimens ,Adverse Events, and Drug Interaction (2-3).

2.1 Changing Epidemiology of Disease Burden in HIV-Infected Patients

A Study in the American College of Emergency Physician With the emergence of AIDS in the 1980s, emergency Physicians were required to evaluate HIV-positive patients for the presence of numerous opportunistic infections. Before HAART, hospitalizations in the HIV population were predominantly due to opportunistic infections and conditions Related to the HIV-infected patient's poor immuneresponse to Non opportunistic pathogens.(3) According to data from the National Hospital Discharge Survey published in 1993, 23.3% of all HIV related admissions carried a concurrent diagnosis of Infectious or parasitic disease caused by opportunistic pathogens,

predominantly *Pneumocystis jirovecii* (previously *carinii*), *Candida albicans*, *Mycobacterium* species (tuberculosis, *Avium*, and intracellular), Cytomegalovirus, and *Cryptococcus neoformans*. Additional 10.1% of HIV-infected patients were hospitalized because of respiratory ailments, predominantly pneumonia that was uncharacterized. More recent studies have found that although the number of hospital discharges among known HIV-positive patients has decreased from 249,000 in 1995 to 173,000 in 2004, the majority of such hospitalizations are now in patients older than 40 years (67%). Hospitalized HIV-infected patients are also showing a different spectrum of illness. In a single-center study in a high-prevalence area, conducted from 2000 to 2005, the percentage of admissions because of *Mycobacterium avium* complex, *Cryptosporidium parvum*, and other late opportunistic pathogens decreased significantly, whereas those related to renal, oncologic (primarily lymphoma), and psychiatric ailments, as well as medication adverse effects, increased. This concurs with earlier research that showed the mortality caused by opportunistic infections in patients with advanced HIV has markedly decreased because of HAART. In the pre-HAART era, hospitalizations were primarily in the population younger than 40 years. The aging of the hospitalized HIV population is largely due to improved life expectancy in HIV-infected patients who are receiving HAART. For a 20-year-old HIV-infected patient, mean life expectancy has increased from 1 year (! 2.3 years) in 1993 to 1995 to 6 years (! 4.4 years) in 2002 to 2004. No published study has examined whether these changes in the epidemiology of HIV have translated to ED chief complaints and diagnoses in HIV-positive patients. However, they do point to the need for emergency physicians to evaluate these patients for disease that extends beyond opportunistic infections, whether because of aging of this population, medication adverse effects, or other causes (3)

HIV associated medical emergencies are common emergency centre presentations in high-prevalence settings. HIV attacks the body's immune system, making infected individuals susceptible to severe infections of multiple organ systems including the respiratory tract, ocular structures, and central nervous system. HIV infected individuals also suffer from unique patterns of cardiac disease, gastrointestinal disturbances, and hematologic and oncologic conditions. Anti-retroviral therapy itself is also associated with numerous side effects, many of which can be life-threatening. Diagnosis and management of HIV infected patients require knowledge of the disease's pathology and the life threatening complications associated with it (1)

In the study done in Nigeria on morbidity and mortality patterns of hospitalized adult HIV/AIDS patients among 152 patients (97.4%) were admitted on account of HIV-related diagnosis, while (2.6%) were HIV-unrelated. Of the 55 patients (43.6%) had ART failure, (27.3%) had IRIS (9 with paradoxical reactions and 6 unmasking), (14.5%) had ART-related toxicities, (7.3%), had HIV-unrelated diagnoses, and in another (7.3%), the diagnoses were unclassified. (7, 8, 9) In recent retrospective cohort study done to investigate time to recurrence of opportunistic infection in people living with HIV/AIDS, in different place of Ethiopia, the incidence rate of any type of OI recurrence were 13.1 per 1000 person weeks, which differs by ART exposure status that will be 15.7 and 11.4 per 1000 person weeks in pre ART and ART PLWHAA respectively most recurred OI s were recurrent upper respiratory tract infection 13.6% , chronic diarrhea 9.7% , pneumonia 8.5 % ,oral candidiasis 8 % ,herpes zoster 7.1% (10)

2.2 HAART Regimens, Adverse Events, and Drug Interactions

The same study in the American college of emergency physician showed the decision to initiate HAART for an HIV-positive patient is usually made according to the CD4 count, as well as other clinical factors, including the presence of AIDS-defining illness and co morbid conditions that might be exacerbated by the initiation of treatment. In general, all HIV-positive patients with a CD4 count less than 350 cells/mL should begin receiving HAART. (4)

The Department of Health and Human Services recommends an initial regimen with the combination of tenofovir emtricitabine or zidovudine/lamivudine as the nucleoside-analog reverse transcriptase inhibitors and either efavirenz as a non-nucleoside reverse transcriptase inhibitor or, fosamprenavir with ritonavir, or lopinavir/ritonavir as the protease inhibitor. Emergency physicians should be aware that all antiretroviral medications, regardless of class, have the potential for hepato toxicity, manifesting anywhere from asymptomatic increase in transaminase levels to fulminate hepatic failure. However, the incidence of this medication, with nevirapine, didanosine, and stavudine recognized as most toxic. Lactic acidosis represents another important complication requiring recognition by emergency physicians .Because of mitochondrial toxicity mediated by nucleoside reverse transcriptase inhibitors, most commonly didanosine and stavudine, lactic acidosis will present with non specific symptoms, including fatigue, vomiting, and myalgias, and is confirmed by evaluation of serum lactic acid level.

The fusion inhibitor enfuvirtide is a subcutaneously injected medication, and its most common adverse effects include local skin reaction with painful nodules at the site of injection, as well as an increased risk of bacterial pneumonia. Maraviroc is the only CCR5 entry inhibitor, and its most common dose-limiting adverse effect is postural hypotension. Raltegravir is an oral medication, and its most common adverse effects appear to be gastrointestinal (including nausea, diarrhea, and increased flatulence) and headache (2)

The devastating course of HIV infection can only be halted with effective HAART. Various classes of HAART have merged targeting multiple enzymes, proteins and receptors integral to the HIV life cycle. In resource-limited settings, HAART regimens are commonly composed of two nucleoside reverse transcriptase inhibitors (NRTIs) paired with a non nucleoside reverse transcriptase inhibitor (NNRTI) (1st line) or a protease inhibitor (PI) (2nd line). Major short-term complications of HAART are related to the drug class and particular drug itself. Adverse drug reactions (ADR) appear worldwide to complicate 11–36% of patients receiving HAART often occurring within the first 6 months. A few HAART side effects warrant prompt diagnosis to avoid unnecessary morbidity and mortality (3)

In the study done in Nigeria on morbidity and mortality patterns of hospitalized adult HIV/AIDS patients among 152 patients. AZT-induced anemia had PCV < 15% (grade 4-toxicity). All cases of IRIS and ART-related toxicities were receiving first line drugs (7- 9)

3.OBJECTIVES

3.1. General objective:

A Study on the assessment of HIV related emergency visit during the HAART era in six public hospitals of Addis Ababa.

3.2. Specific objectives

1. To assess the socio-demographic features of patients presented with HIV related emergency disease to emergency rooms in Addis Ababa Hospitals
2. To assess the HIV positive patients baseline characteristics who presented with HIV related emergency diseases to emergency room
3. To assess the Clinical features of HIV related emergency diseases

4. RESEARCH METHODOLOGY

4.1 *Study period and area*

The study was conducted in Addis Ababa which is the capital city of Ethiopia. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), Addis Ababa has a total population of 2,739,551, of whom 1,305,387 are men and 1,434,164 women; all of the populations are urban inhabitants(11).

The city has 49 hospitals. Thirteen are public hospitals. Of these public (governmental) hospitals six of them are under Addis Ababa city administration namely, Yekatit 12 hospital , Minilik the second, Ras Desta, Zewuditu memorial hospital, Gandhi Memorial hospital and Tirunesh general hospital. Other five hospitals are administered under the federal ministry of health of Ethiopia including Tikur Anbessa General Specialized hospital, St. Paul General Specialized hospital, Amanuel psychiatric hospital, Alert, and St. Peter are under these group. The rest two hospitals are under defense ministry of Ethiopia i.e. army and defense hospitals Thirty six of the city's hospitals are private. Furthermore the city has 51 health centers and 700 different level private clinics (**data obtained from medical service directorate of the federal ministry of health, AARHB, and Addis Ababa city administration**)

This study was conducted in six public hospitals such as Yekatit 12 hospital , Minilik the second, Ras Desta, Zewuditu memorial hospital, Tikur Anbessa General Specialized hospital, and St. Peter) from January 2015 to march 2015 which have been providing organized emergency care services.

4.2. *Study design*

A cross-sectional descriptive study was employed among clinically confirmed HIV positive cases who were seeking emergency care in six public hospitals of Addis Ababa.

4.3. Study population

4.3.1 Source population:

The source population was all patients attending the emergency department of Yekatit 12 hospital, Minilik II, Ras Desta, Zewuditu memorial hospital, Tikur Anbessa Specialized hospital, and St. Peter, Ethiopia from January to March 2015.

4.3.2 Study population:

All clinically confirmed HIV cases who were seeking Emergency Care in six Hospitals of Addis Ababa from January to March 2015.

4.4. Inclusion and exclusion criteria

4.4.1 Inclusion criteria

All clinically confirmed HIV-positive patients seeking care for their Emergency Condition Age ≥ 15 years

4.4.2 Exclusion criteria

Age < 15 years, trauma patients, prisoners, those who could not give consent for the study

4.5 Sampling Technique and sample size determination

4.5.1: Sample size

All those clinically confirmed HIV-positive patients throughout the data collection period and that fulfill inclusion criteria were interviewed. The number of patients to be included in the study were 422

4.5.2: Sample Size Determination

Sample size was determined by statistical calculation. The estimation of population proportion, p , where p is the proportion of clinically confirmed HIV related emergency patients that seek emergency care. Because proportion of patients P in the area is unknown, 0.5 will be used, as this value gives sample size sufficiently large to guarantee an accurate prediction, 95% confidence interval and 5% error of estimate.

The following formula was used.

$$n = \frac{(z \alpha / 2)^2 \times p (1-p)}{d^2}$$

Whereas: - n= sample size

p= 0.5 (proportion of HIV related emergencies)

Z_{x/2}=1.96 (Z=score corresponds to 95% confidence interval.

d= 0.05 (Margin of error)

$$n = \frac{(0.5)(0.5)(1.96)^2}{(0.05)^2} = 384 \text{ Pts}$$

10% contingency was considered =38, which makes total sample size of 422 pts.

4.5.2 Sampling technique:

Non probabilistic convenient sampling technique was employed.

4.6 Data collection tools and procedure:

The data was collected by interviewing study subjects or accompanied informant for Socio-demographic variables, where the patients were not able to answer the questions because of their conditions, information was obtained from accompanied to hospital. Additionally case papers of HIV Care/ ART follow up form, laboratory request, and from the patients' cards. Pre-tested and structured questionnaires were used for the assessment.

4.7 Measurement variables :

4.7.1 Dependent variable

HIV infection related Emergency diseases

4.7.2 Independent variable

Socio demographic (age, sex, religion, educational status, marital status, occupation, Clinical feature, Laboratory investigation, ART adherence, ART and chemoprophylaxis information and functional status (working, ambulatory, bed ridden)

4.8 Data entry and analysis:

The data obtained was edited manually, entered into the computer and analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.00.

4.9 Operational definition

EMERGENCY ILLNESS—Disease that leads patients to life threatening condition

HIV RELATED EMERGENCY ILLNESS ----- HIV /AIDS disease progression leads patients to life threatening condition

GOOD ADHERENCE: if the patient takes $\geq 95\%$ of his/her medication OR < 3 dose as documented by ART health personnel

FAIR ADHERENCE: if the patient takes 85-94% of his/her medication or 3-9 dose of 60 doses as documented by ART health personal

POOR ADHERENCE: if the patient takes < 85 of his/her medication. Or 3-9 dose of 60 doses as documented by ART health personal.

IRIS- a patient with unexpected deterioration in clinical condition with signs and symptoms of inflammation/infection soon after commencing ART (< 6 months of regular ART)

4.10 Data Quality Assurance:

To assure the quality of data, structured data collection was used. During the data collection procedures, all the collected data was reviewed and checked daily for its completeness. The questionnaire was pretested in 5 % of the sample size before the actual data collection is conducted.

4.11 Ethical Considerations:

Permission to carry out the study was obtained from the Institutional Review Board (IRB) of Addis Ababa University College of health science, school of medicine, department of emergency medicine.

The interviews to this emergency illness were done after having their consent to participate in the study after explaining the purpose of the study. Respondents were informed that they have a right to decline the interview.

4.12 Dissemination of Research Findings:

The study was undertaken for the partial fulfillment of the Degree of Masters of Emergency Medicine, at the Department of Emergency Medicine, Faculty of Medicine, and Addis Ababa University. The finding of the study will be published in relevant scientific and journals as appropriate. And documents will be disseminated to all responsible bodies in the study area, for all hospitals where the study is conducted, MOH and Addis Ababa university school of emergency medicine.

CHAPTER V

RESULTS

5.1. Socio – Demographic Profile

Of the total 18090 patients who visited the emergency department of Six AA public Hospitals during the study period, 422 (2.3%) were HIV positive patient. Out of the 422 questionnaires that were administered, all were correctly completed making a response rate of 100% and were clinically confirmed HIV patients. Out of 422 clinically confirmed HIV patients, 144 (34.1%) were Males and the remaining 278 (65.9%) were females, giving a female to male ratio of 2:1. The patients' ages ranged from 17 to 57 years with the mean ($\pm$ SD) of 37.4 ($\pm$ 8.7) years 38.5 were the median age, 24 were the mode. 99 (23.5%) of the studied patients were daily laborers followed by government employed 94 (22.3%), and businessmen, 86(20.4%). The remaining 8(1.9%) were farmers. The educational status of most of the patients were secondary school 192(45.5) followed by informal education 77 (18.2) and primary school 57(13.5). Regarding religious status 278 (65.9%) were followers of Orthodox religion, 52 (12.3.0%) were protestant 42(10.0%), were Muslim and the rest 50(11.8) were different religions followers. The study shows that nearly half 192 (45.5%) clinically HIV confirmed patients were married followed by 117 (27.7%) single and 58 (13.7%) divorced individuals. Table 1

Socio –demographic characteristics

Table.1 *Table showing the Socio demographic characteristics of patients with HIV related emergency diseases who visited the emergency rooms of AA public hospital, Addis Ababa Ethiopia, March,2015 (n=422)*

Variable		Number (422)	Percent (%)
Age	15-24	67	15.9
	25-34	98	23.2
	35-44	179	42.4
	45-54	61	14.5
	55 and above	17	4.0
Sex	Male	144	34.1
	Female	278	65.9
Religion	Orthodox	278	65.9
	Muslim	42	10.0
	Protestant	52	12.3
	Others	50	11.8
Educational status	Cannot read and write	50	11.8
	In formal education	77	18.2
	Primary school	57	13.5
	Secondary school	192	45.5
	Higher education	41	9.7
	Un known	5	1.2
Marital status	Single	117	27.7
	Married	192	45.5
	Divorced	58	13.7
	Widowed	36	8.5
	Separated	19	4.5
Occupation	Daily laborer	99	23.5
	Business men	86	20.4
	Government employed	94	22.3
	Farmer	8	1.9
	Others	135	32.0

Clinical Characteristics of study subjects

Regarding the duration of disease since the time of diagnosis, from the total study subjects 117(27.7%)were less than 1 year, 179(42.5%) were 1-5 years, 108(25.6%) for 6-10 years and the remaining 18(4.2%) were for >10 years(Fig 1).

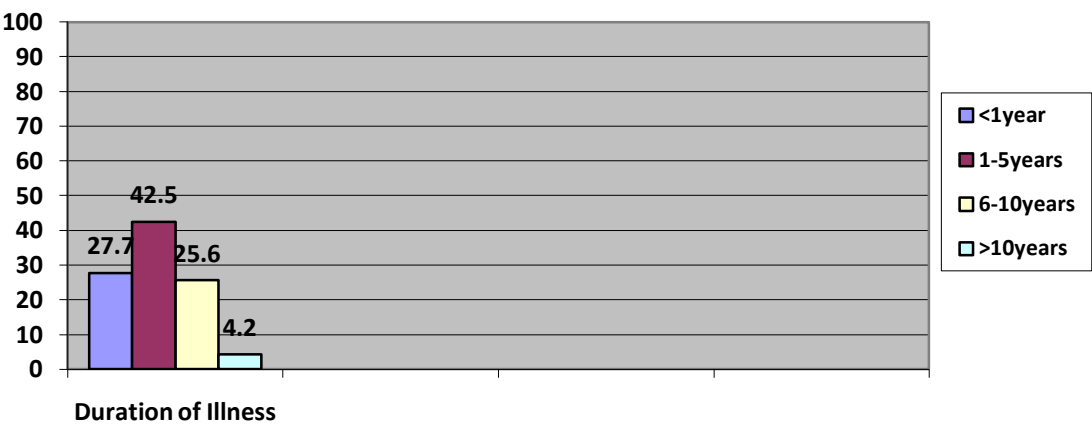


Figure 1–Duration of illness since the time of the diagnosis in years of PLHIV, Addis Ababa, 2015

Duration of illness	Frequency	%
Less than one year	117	27.7
1-5 year	179	42.5
6-10 year	108	25.6
Greater than ten year	18	4.2

Table 2–Duration of illness since the time of the diagnosis in years of PLHIV, Addis Ababa, 2015

Among the PLHIV included in the study 218(51.7%) were on first line (3tc+ tdf+ efv/nvp) HAART regimen and 3(0.7%) were on second line (ABC+ddi+Lpv/r) HAART regimen, 187(44.3%) were not receiving HAART and for the remaining 14(3.3%) it was unknown.

The adherence level for the respondents among 221 PLHIV (99.1) had good adherence, 0.5% had poor adherence and 0.5% had unknown adherence level.

Among the PLHIV 340(80.1%) were treated for at least one kind of opportunistic infection where as the remaining 19.9% had no history of treatment for any kind of OI. Of the total respondents 110(26.1%) were treated for chronic diarrhea, 81(19.2%) were treated for chronic diarrhoea and wasting syndrome, 79(18.7%) were treated for pulmonary tuberculosis, 52(12.3%) were treated for oral thrush and 18(4.3%) were treated for Herpes Zoster (fig 2).

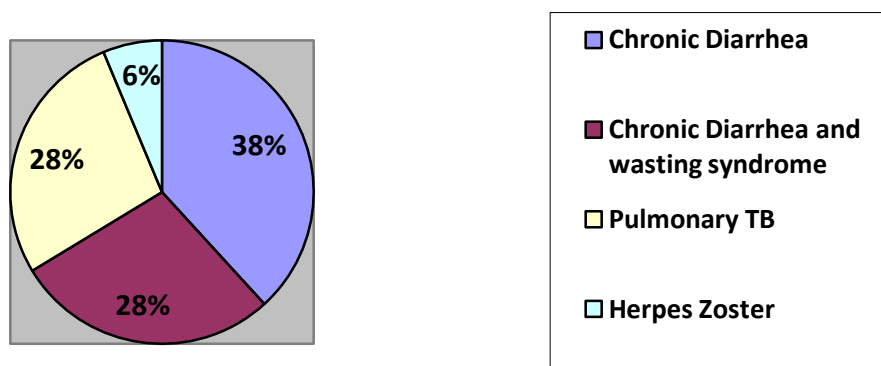


Figure 2–Percentage of PLHIV treated for Opportunistic infections in the past, Addis Ababa, 2015

Among the respondents 386 (92.3%) of them were on cotrimoxazole prophylaxis, 22(5.3%) were on INH prophylaxis treatment and 3(0.7%) were on fluconazole prophylactic therapy. (Fig3)

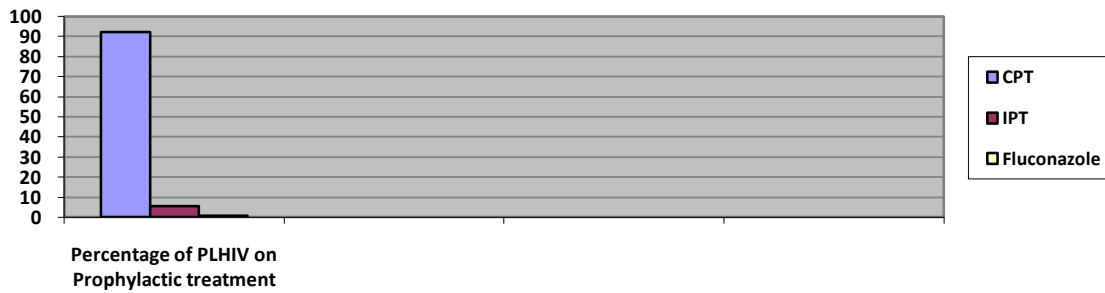


Fig -3 Type of prophylaxis treatment received by HIV patients visiting emergency room in different hospitals, Addis Ababa, 2015

The WHO stage of the disease for HIV patients at base line, 41(9.7%) were Stage I, 65(15.4%) were Stage II, 212(50.2%) were Stage III and 104(24.7%) were Stage IV (Figure4)

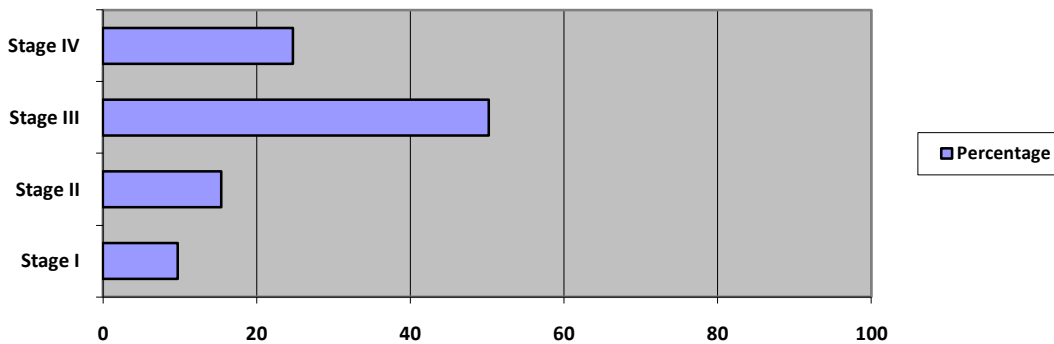


Figure 4–Base line WHO staging for HIV patients coming to ED, Addis Ababa, 2015

Concerning the WHO stage of the disease for HIV patients coming to ED, 28(6.6%) were Stage I, 31(7.3%) were Stage II, 139(32.9%) were Stage III and 189(44.8%) were Stage IV and the remaining 35(8.3%) were others (table3)

WHO stage	Number (422)	Percent (%)
one	28	6.6
Two	31	7.3
three	139	32.9
four	189	44.8
others	35	8.3
Total	422	100.0

Table 3– Recent WHO staging for HIV patients coming to ED, Addis Ababa, 2015

The CD4 Count of the PLHIV at base line were also assessed, and of the total 422 patients 233(55.2%) had a CD4 count of <200 cells/ul, 140(33.1%) had a CD4 count between 200-499 cells/ul and for the remaining 49(11.6%) it was unknown. (Figure 5)

Concerning the functional status of patients, over half of the cases 231(54.7%) were ambulatory, a third (34%, N=114 were working) and 44(10.4%) were bed ridden as shown below.

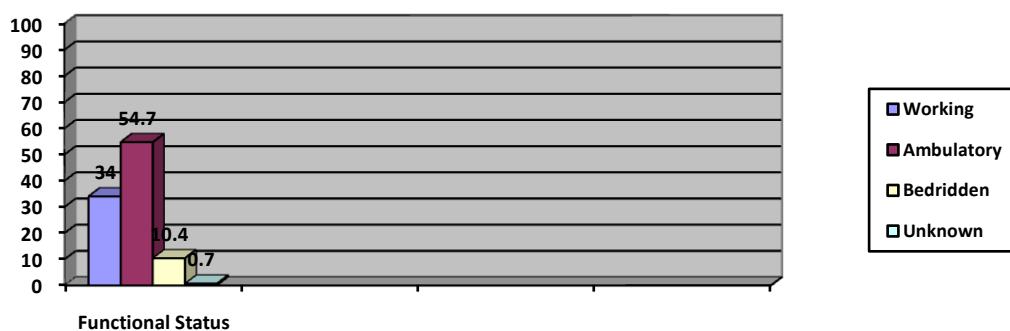


Figure 5- Base line Functional Status of PLHIV Addis Ababa, 2015

Concerning the functional status at the time of presentation to Emergency room 40(9.5%) were working, 243(57.6%) were ambulatory, 137(32.5%) were bedridden and for 0.5% functional status was unknown (table 4).

FUNCTIONAL STATUS	Number (422)	Percent (%)
working	40	9.5
ambulatory	243	57.6
bed ridden	137	32.5
Not recorded	2	.5
Total	422	100.0

Table 4– Functional Status of PLHIV at presentation ED Addis Ababa, 2015

The CD4 Count of the PLHIV at base line from the total of 422 patients 233(55.6%) had a CD4 count of <200 cells/ul, 140(33.4%) had a CD4 count between 200-499 cells/ul and for the remaining 3(0.7%) were > 500 cells/ul, and 46(11%) it was UN known (fig 6)

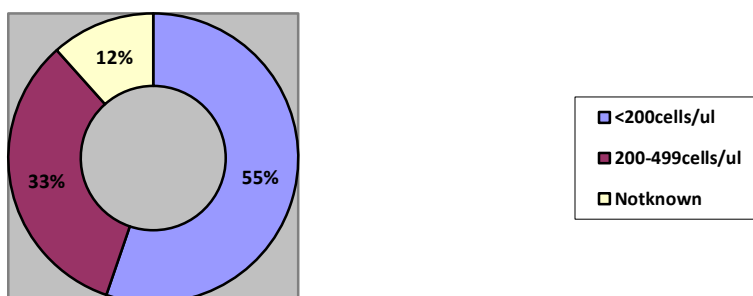


Figure 6– base line CD4 Percentage of HIV patients coming to ED, Addis Ababa, 2015

The CD4 Count of the PLHIV at the time of presentation to Emergency rooms were also assessed, and of the total 422 patients 181(42.9%) had a CD4 count of <200 cells/ul, 193(45.7%) had a CD4 count between 200-499 cells/ul and for the remaining 11(2.6%) were > 500 cells/ul, 37(8.8%) it was unknown. (Table 5)

CD4 CONT	Number (422)	Percent (%)
<200	181	42.9
200-499	193	45.7
>/ to500	11	2.6
not known	37	8.8
Total	422	100.0

Table 5- Recent CD4 Percentage on HIV patients coming to ED, Addis Ababa, 2015

The study showed the haemoglobin level of the PLHIV at base line who presented to emergency rooms; of the total respondents 236 (55.7%) had haemoglobin level of >10 gm/dl, 12 (2.9%) between 8.0-9.4gm/dl and the remaining 174 (41.2%) didn't have the record. (Fig 7)

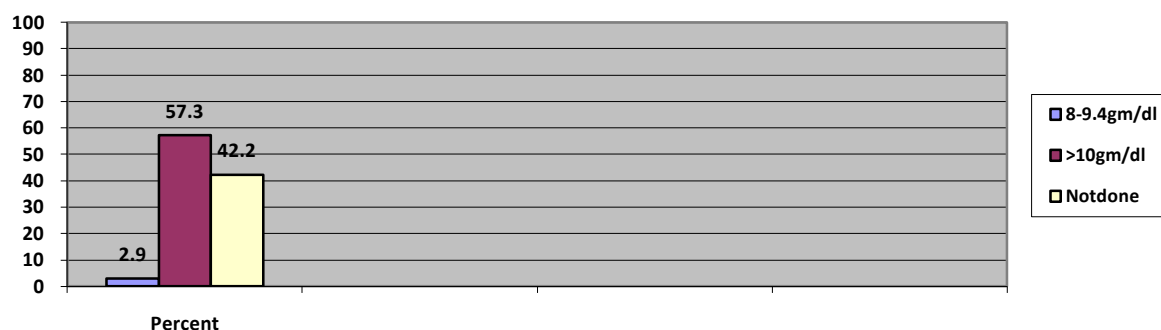


FIG 7- haemoglobin level of PLHIV at base line Addis Ababa, 2015

The study showed the haemoglobin level of the PLHIV who presented to emergency rooms; of the total respondents 265 (62.8%) had haemoglobin level of >10 gm/dl, 62(14.7%) between 8.0-9.4gm/dl , 59(14%) between 7.0-7.9g/dl, 4(0.9%) between 6.5-6.9gm/dl and the remaining 22 (5.2%) didn't done. (table 6)

Hemoglobin level	Number (422)	Percent (%)
8.0-9.4g/dl	62	14.7
7.0-7.9g/dl	59	14.0
6.5-6.9g/dl	4	.9
less than 6.5g/dl	10	2.4
grater than 10 g/dl	265	62.8
not done	22	5.2
Total	422	100.0

Table 6 -haemoglobin level of PLHIV at ED Addis Ababa, 2015

The study showed that the female HIV patients coming to the emergency room was 113(26.7%) while 68(16.1%) of the HIV patients were male comparing their CD4 count less than 200. Due to this reason the females are still in higher number to be ill and appear in emergency rooms. (Figure 8)

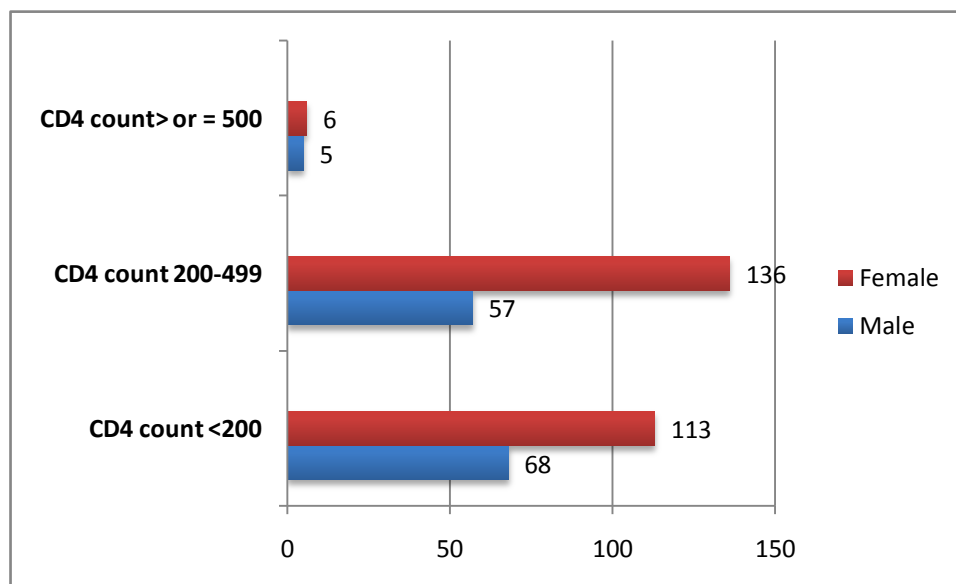


Fig _8 recent Sex and CD4 count of HIV patients coming to ED, Addis Ababa, 2015

From the study we can also see that most 132(31.3%) of the females are found in the fourth WHO staging comparing to the males 57(13.5%). (Figure, 9)

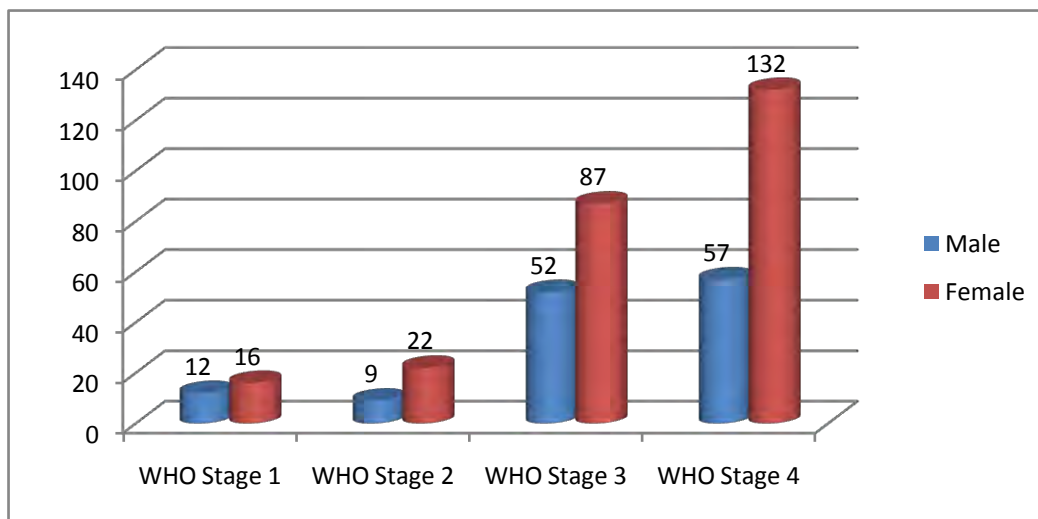


Fig -9 recent Sexes and WHO staging for HIV patients coming to ED, Addis Ababa, 2015

From the study participant at base line about half of the patients (51.7%) were on first line HAART followed by patients (44.3%) not receiving HAART regimen. And the adherence level according to the study 99.1% of the PLHIV receiving HAART had good adherence (tabel6)

HAART REGIMENS	Number (422)	Percent (%)
First lion regimens Tdf+3tc+efv/nVP	218	51.7
second lion regimens (ABC+ddi+Lpv/r)	3	.7
Unknown	14	3.3
Not started	187	44.3
Total	422	100.0

Table- 7 Base line HAART regimen of HIV patients Addis Ababa, 2015

From the study **HAART regimen of HIV patients coming to ED** 273 (64.7%) were on first line HAART (Tdf+3tc+efv/nvp), 82 (19.4%) were on second line (ABC+ddi+Lpv/r), 55(13%) were not started HAART regimen at last 12(2.8%) were un known status. And the adherence level according to the study 97.8% of the PLHIV receiving HAART had good adherence (table 7)

HAART REGIMEN	Number (422)	Percent (%)
first lion regimen Tdf+3tc+efv/nvp	273	64.7
Second lion regimen (ABC+ddi+Lpv/r)	82	19.4
Unknown	12	2.8
Total	367	87.0
Not started	55	13.0
Total	422	100.0

Table 8- Recent HAART regimen of HIV patients coming to ED Addis Ababa, 2015

Regarding to reason for visit of the Emergency Department for HIV patients the study shows that Hypovolumic shock secondary to diharria and vomiting contributed 70(16.7%) for HIV patients coming to emergency department followed by Pneumonia 64(15.2%),Anemia 52(12.3%)Pulmonary tuberculosis 43(10.1%), and Acute Gastro Enteritis 35(8.3%).(Table 2)

Among the causes of ED visits, 138 (32.7%) were due to known HIV-related causes whereas the remaining cases were due to other illness which could be either HIV-related or non-HIV related illnesses. (Table 8)

Table 9: Pattern of emergency Illnesses for PLHIV visiting Emergency Department

Diseases	Frequency	Percentage %
NON HIV RELATED ILLNESSES		
Hypovolumicshock /hypotension	70	16.6
Acute gastro enteritis without shock	35	8.3
DVT	7	1.7
NHL(Non Hodgkin's lymphoma)	12	2.8
Septic shock	13	3.1
THROMBOCYTOPINEA	5	1.2
Breast ca	9	2.1
Pneumonia	64	15.2
HPN emergency	8	1.9
EPIStaxies	4	.9
ARD(acute respiratory disease)	7	1.7
AKI(acute kidney injury)	6	1.4
Rheumatoid arthritis	9	2.1
Gastritis	16	3.8
HIV RELATED ILLNESSES		
Pulmonary tuberculosis(Tb)/ Disseminated Tb	43	10.1
ANEMIA	52	12.3
Drug induced hepatitis	28	6.6
Cryptococcal meningitis	14	3.3
Oro pharyngeal candidacies	8	1.9
Total	422	100.0

Regarding to reason for visit of the Emergency Department population of HIV patients by sex, Hypovolumic shock secondary to diarrhea and vomiting account 4.50% for male and 12.8% for female patients. In case of Pneumonia 10.42% cases were found in female and 4.73% in male HIV patients. In case of anemia it contributes 9% for female and 3.31% for male patients coming to emergency unit. (Table)

For most cases such as AGE, pulmonary TBC, NHL, thrombocytopenia, acute kidney injury, gastritis, septic shock, and drug induced hepatitis the number is high in case of females than males. On the other hand for cases like HPN emergency, Epistaxis, ARDS, Arthritis, CNS toxo, and cryptomenigitis it is greater in males than female. (Table 9)

Table 10: Pattern of emergency illnesses for PLHIV visiting Emergency Department by sex, Addis Ababa, 2015

S.No	Diagnoses	Male		Female		Total	
		n	%	n	%	n	%
1.	hypovolumic shock /hypotension	19	4.50	51	12.08	70	16.6
2.	AGE(acute gastro enteritis	12	2.84	23	5.45	35	8.3
3.	pulmonary TB/disseminated TB	19	4.50	24	5.68	43	10.1
4.	NHL	5	1.18	7	1.65	12	2.8
5.	thrombocytopenia	2	0.47	3	0.71	5	1.2
6.	Breast Ca	0	0	9	2.13	9	2.1
7.	pneumonia	20	4.73	44	10.42	64	15.2
8.	HPN emergency	6	1.42	2	0.47	8	1.9
9.	Epistaxis	3	0.71	1	0.23	4	0.9
10.	ARD(Acute respiratory disease	4	0.94	3	0.71	7	1.7

11.acute kidney injury(AKI)	0	0.0	6	1.42	6	1.42
12. Arthritis	5	1.18	4	0.94	9	2.1
13.Gastritis	5	1.18	11	2.60	16	3.8
14.CNS toxo	7	1.65	5	1.18	12	2.8
15.Anaemia	14	3.31	38	9.00	52	12.3
16.septic shock	4	0.94	9	2.1	13	3.1
17.Drug induced hepatitis	3	0.71	25	5.92	28	6.6
18.cryptomeningitis	8	1.89	6	1.42	14	3.3
19.DVT	5	1.18	2	0.47	7	1.7
20.oropharyngeal candidiasis	3	0.75	5	0.71	8	1.9

Concerning diagnosis at emergency departments for patients appearing to emergency room by age groups (35-44), pneumonia contributed for (30) of the patients followed by hypovolumic shock (23) secondary to diarrhea and vomiting and anemia (16). All illness coming to the rooms are more manifested at this middle age group. (Table 10)

Table 11: Pattern of emergency illnesses for PLHIV visiting Emergency Department by Age, Addis Ababa,2015

	Age of respondents					Total
	15-24	25-34	35-44	45-54	greater than 55	
Hypovolumic shock/hypotention	23	10	23	10	4	70
AGE without shock	1	11	17	4	2	35
Tuberculosis(TB)	0	19	21	4	3	43
NHL	0	2	6	4	0	12
THROMBOCYTOPINEA	0	2	1	1	1	5
breast ca	0	0	7	2	0	9
Pneumonia	3	18	30	9	4	64
HPN emergency	0	0	1	4	3	8
Epistaxis	0	0	1	3	0	4
ARD	0	0	5	2	0	7
AKI	0	5	0	1	0	6
Rheumatoid arthritis	0	0	7	2	0	9
Gastritis	1	7	7	1	0	16
CNS Toxoplasmosis	0	1	11	0	0	12
ANEMIA	24	9	16	3	0	52
Septic shock	0	4	8	1	0	13
Drug induced hepatitis	14	7	4	3	0	28
Cryptococal meningitis	1	5	7	1	0	14
DVT	0	0	3	4	0	7
oropharyngial candidiasis	0	2	4	2	0	8
Total	67	98	179	61	17	422

6. Discussion

This study is conducted to assess the socio-demographic features of HIV positive patients, assess the baseline characteristics and the Clinical features of HIV related emergency diseases in Addis Ababa Hospitals. This study describes variables that may be potentially predictive of disposition in emergency clinic related to HIV related emergency conditions in the era of HARRT ,and the information obtained from this study will help to health care providers, policy makers, and other stakeholders in Ethiopia in the provision of required diagnostic and therapeutic facilities in hospitals according to prevalent diseases, and in the preemptive management HIV-related clinical complications, as well as in the prevention of HIV-related morbidities and mortalities.

The result of the study showed majority of the patients 65.9% were females and 34.1% were Males giving a female to male ratio of 2:1. The patients' ages ranged from 17 to 57 years with the mean (+SD) of 37.4 (± 8.7) years and the majority 42.4% of the HIV patients coming to the emergency department were between the ages of 35-44 years. Similar study conducted in Spain showed most of the patients who were seen at emergency departments for HIV related illnesses were between the age of 35 to 44 years old (14) This indicates that HIV infection prevalence is still very high and represents a major global socioeconomic impact, since increased morbidity is observed in working population.

Regarding the duration of disease since the time of diagnosis, majority were with disease duration between 1-5years 42.5% ,followed by less than one year 27.7% followed by 6-10 years 25.6%.

The study showed among the PLHIV more than half of the patients (64.7%) were on first line (Tdf+3tc+efv/nvp) HAART followed by patients (19.4%) second line (ABC+ddi+LPV/) HAART regimen13% not receiving HAART regimen. And the adherence level according to the study 97.8% of the PLHIV receiving HAART had good adherence.

Among the respondents 92.3% of them were on cotrimoxazole prophylaxis, 5.3% were receiving INH prophylaxis treatment and very few of PLHIV 0.7% were on fluconazole prophylactic therapy. Concerning the functional status 9.5% were working, 57.6% were ambulatory, 32.5% were bedridden and for 0.5% functional status was unknown.

The study also identified that from the total PLHIV who presented with one kind of emergency illness significant number of the PLHIV 42.9% had a CD4 count of <200 cells/ul, and 45.71% had a

CD4 count between 200-499 cells/ul which implicates the CD4 count has got a direct relationship with the occurrence of HIV related emergencies in general. Concerning the WHO stage of the disease for PLHIV coming to ED, majority 44.8 % were Stage IV ,32.9% were Stage III, 7.3% were Stage II, and 6.6% were Stage I.

From the study we can also see that most 31.3% of the females were found to be in the Stage IV WHO staging comparing to the males 13.5%. The study revealed that CD4 count was also < 200 for 26.7% females compared to 16.1% males. This can be explained in a way that the socio-economic dependency and the family economic power rest with the men can lead for most female patients to come to emergency rooms after they become critically ill. This finding is also supported by the study obtained in Nigeria (9).

It was identified that most of the patients 80.1% were treated for at least one kind of HIV related emergency illness in the past. When we see the pattern of common disease conditions , the study showed that majority of the respondents were treated for chronic diarrhoea 26.1%, followed by chronic diarrhoea and wasting syndrome 19.2%, pulmonary tuberculosis 18.7 , oral thrush 12.3% and Herpes Zoster 4.3%.

The study showed the haemoglobin level of the PLHIV who presented to emergency rooms; of the total respondents 62.8% had haemoglobin level of >10gm/dl, 14.7% between 8.0-9.4gm/dl, 14% between 7.0-7.9 gm/dl, 0.9% between 6.5-6.9 gm/dl and the remaining 5.2% didn't have the record.

In our study we observed most of the people living with HIV who came to emergency departments due to hypovolumic shock secondary to diarrhea and vomiting 16.6% followed by pneumonia 15.2% and anemia 12.3% Pulmonary tuberculosis 10.1%, and Acute Gastro Enteritis 8.3%.

Regarding to reason for visit of the Emergency Department population of HIV patients by sex, Hypovolumic shock secondary to diarrhea and vomiting account 4.50% for male and 12.8% for female patients. In case of Pneumonia 10.42% cases were found in female and 4.73% in male HIV patients. In case of anemia it contributes 9% for female and 3.31% for male patients coming to emergency unit that showed for all cases females outnumbered males. On the other hand for cases like HPN emergency, Epistaxis, ARDS, Arthritis, CNS toxo, and cryptococcal meningitis the number is greater in males than female. The finding is similar to the study done in Ethiopia two years ago

which showed that the most common opportunistic infections were recurrent upper respiratory tract infection, chronic diarrhea, pneumonia, oral candidiasis, herpes zoster (10).

Majority of HIV related emergency illnesses diagnosed in the emergency rooms were distributed among the middle age group 35-44. When we see the pattern of illnesses pneumonia contributed for 46.9% of the patients followed by hypovolumic shock 32.9% secondary to diarrhea and vomiting and anemia 30.8%.

Similar study done in Nigeria showed that tuberculosis, followed by sepsis and chronic diarrhoea, were the most common problems where as Kaposi's sarcoma (KS) and cerebral toxoplasmosis were the most common malignancy and cerebral mass lesion in HIV patients respectively. (25, 26). In study conducted in USA it was found that HIV/AIDS patients have a frequent need for emergency care and most HIV/AIDS hospitalizations are emergency-related. The most common acute diagnoses were pneumonia (24%), fever (16%), upper respiratory infection (10%), cellulites (7%), and gastroenteritis (7%) in which pneumonia, fever, and sepsis (13) diagnoses accounted for 70% of acute HIV hospitalizations.

From the result of the study it can be seen that HIV-positive patients are susceptible to a variety of life threatening conditions. Diagnosis and management of HIV infected patients require knowledge of the disease's pathology and the life threatening complications associated with it. Moreover, it provides emergency physicians easily access and treat HIV infected patients who present to the Emergency Departments as early as possible.

Strength and Limitation of the study

Strength

This study is conducted to assess the socio-demographic features of HIV positive patients, assess the baseline characteristics and the Clinical features of HIV related emergency diseases in Addis Ababa Hospitals. This study describes variables that may be potentially predictive of disposition in emergency clinic related to HIV related emergency conditions in the era of HARRT ,and the information obtained from this study will help to health care providers, policy makers, and other stakeholders in Ethiopia in the provision of required diagnostic and therapeutic facilities in hospitals according to prevalent diseases, and in the preemptive management HIV-related clinical complications, as well as in the prevention of HIV-related morbidities and mortalities.

Despites its findings, this study had its limitations

1. Lack of similar studies especially in Ethiopia made difficulty in comparing results
2. Namely the design of the study, cross-sectional only incorporate one single moment.
3. Non representativeness due to the non probabilistic convenience sampling technique
4. Tendency for bias.

Conclusion

HIV-positive patients are susceptible to a variety of life threatening conditions including tuberculosis, bacterial pneumonia, meningitis, diarrhea, malignancies, and a wide spectrum of medication side effects (3). The mortality caused by opportunistic infections in patients with advanced HIV has markedly decreased and the life expectancy improved because of HAART. In the pre-HAART era, hospitalizations were primarily in the productive younger and middle age group population that brought significant negative socioeconomic impact in many Nations and globally in the last decades.

The findings indicate that HIV/AIDS patients have a frequent need for emergency care and most HIV/AIDS hospitalizations are emergency-related. The acute problems of these patients are related to a hypovolumic shock secondary to diarrhea and vomiting, pneumonia and anemia.

The findings revealed that middle age groups are at high risk of emergency illness are well documented in many reviews on the subject. This may reflect important economic impacts as these are people also in their productive age group. It also has implications for the design and implementation of more targeted interventions. Before some years ago HIV related emergency illness were PCP (Pneumocystis Jirovici pneumonia), toxoplasmosis, diarrhea etc, but now a days there is a shift to other illnesses such as hypovolumic shock, pneumonia, anemia, AGE and TB that should also need an intervention.

To facilitate early HIV diagnosis and early initiation of HAART, all stakeholders in the region must make concerted effort to expand and implement voluntary counseling and testing as well as the provider-initiated testing and counseling, even as new strategies are developed to detect early infection for prompt initiation of HAART, when necessary. An HIV associated emergency should therefore be a strong consideration for any critically ill patient, especially in high prevalence regions.

Recommendation

- Awareness creation about HIV AIDS transmission and prevention in the general community an high risk individuals
- Expanding and improving the availed ART clinics and VCT / PICT services
- Increasing access HAART and Prophylactic treatments for PLHIV
- Capacity building and technical support for the staffs and emergency departments enabling them to easily identify ,diagnose and treat HIV related emergency illnesses promptly
- More attention should be given for middle age group of people living with HIV/AIDS
- More female HIV patients needs more special focus during pre-ART,ART follow up, and counseling while they are getting service

- Special emergency care should be given for HIV patients at their four stages and CD4.
- Different interventions should be done based on the majority of the patients.
- Periodical reassessment of HIV related emergency illnesses
- The use of other research findings to share experiences and have insight on similar studies in the future.
- The need for further research on the topic.
- The need for participation of health managers, policy makers and community workers on the issue.

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ANNEXES

ANNEX. I Information and consent form

Information and consent form (English version)

A. information sheet

Greetings! My name isI am health personnel working in emergency outpatient department now I am collecting data from pt and pt card for the research being conducted to assess the prevalence of HIV related emergency diseases in the HAART era , by Shewanesesh Marye she is Msc student in Addis Ababa university. The study will be used to directly/Indirectly expect social crises number of emergency clinic needed and its burden,economic losses due to not working and ,costs for treatment or transportation based on HIV related emergency infection occurrence . The evidence is expected to be used by governmental and nongovernmental organization working HIV/AIDS or mainstreaming it in order to inform policy makers and medical practitioners. The data which is necessary for the study will be taken from pt and pt chart therefore; your willingness to use the recorded data in this study will be helped to achieve the stated benefits of the study and participation in the study is seen as vital citizenry and societal opportunities as well as contributions.

If you have any question about this study you may ask me or the principal investigator

Shewanesesh Marye Tel:0911672393

A. Consent form

Based on the purpose and objectives of the study, you are selected as one of study subject by n chance. The investigator employed me for this data collection to maintain your data strictly confidential. As the study will be conducted through review pt medical record and from the pt, it will not cause any harm as far as the confidentiality is kept. The information will be taken when you give permission, and participation is totally voluntary. Your name and other personal identifiers will not be recorded on data collection form and the information that you give us will be kept confidential and will also be used for this study purpose only. You have full right not to let your information from you and on chart to be used for this study. But the information that would be taken will be quite useful for the study. You will not face any problem if you do not allow the information to be taken from your charts and you will not also be denied of getting any medical services from the hospital. On the other hand, there is no any special benefit by allowing your chart to be used in the study.

Are you willing to let your information to be used for this study?

1. Not willing to extract data.....

(End the session with thanks)

2. Yes willing to extract

(Appreciate and proceed to extract data)

Name and signature of the data collector which shows that the respondent has consented (verbally) to take part in the study

Signature.....

Super visor's Name.....signature.....

Name of hospital.....

ANNEX II

QUESTIONNAIRE assessing point prevalence estimate of causes for HIV related emergency room visit in the HAART era

Study participant identification number.....

Time of study participant enters to study (Date...../month...../year.....)

Time of study participant leave study or outcome occurred Date..... /month...../year.....)

INSTRUCTIONS

Please encircle the responses

Ser.no	Part- ISOCIO DEMOGRAPHIC CHARACTERISTICS	Code
1.	Age (.....)years	
2.	Sex	
	A. Male B. female	
3.	Religion	
	A. orthodox c. Muslim	
	B. protestant D. other specify	
4.	Marital status	
	A. Married c. Divorced	
	B. Single D. widowed E. Others	
5.	Educational status	
	A. Not educated c. Grade 1-8	
	B. Informal education D. Grade 9-12	
	E. Diploma and Above	
6.	Occupational status	
	A. Farmer D. day laborer	
	B. Merchant E. other specify	
	c. Governmental employ	

	Part II previous illness, base line clinical and functional status information(filled from ART follow up form)	
7.	Duration of known HIV positive status at the time of emergency visit in (month).....	
	Not known.....	
8.	HIV related diagnostic categories	
	A. HIV +v (asymptomatic) ,naive to antiretroviral therapy (ART)	
	B. Newly diagnosed HIV +ve patient with AIDS defining illness (ADI)	
	C. HIV +ve patient ,already on ART ,has now presented with ADI	
	D. HIV +ve on ART , presented with non –AIDS related illness	
9.	Base line treated opportunistic illness or AIDS- related illness	
	A. herpes zoster pneumonia	G. bacterial
	B. wasting syndrome	h. Toxoplasmosis.
	C. chronic diarrhea meningitis	I. Cryptococcal
	D. pulmonary tuberculosis	J. encephalopathy
	E. extra Pulmonary tuberculosis	K. genital /oral ulcer
	F. oral thrush	
	L. other specify	M. none
10.	Has base line other chronic diseases like diabetes mellitus, hypertension, cardiac disease and if yes, what is it?	
		
11.	Base line WHO clinical staging	
	A. I	C. III
	B. II	D.IV
12.	Base line wt (.....)kg	
13.	Base line height (.....)cm	

14.	Base line functional status	
	A. working ridden	B. ambulatory
		C. bed ridden
	Part –III Base line labor-atory and ART information (Filled from ART follow up form)	
15.	Base line CD4 count (.....)	c x-ray
16.	Base line hemoglobin (Hgb) value (.....)	CT
Part-IV Base line ART and chemo prophylaxis _s information(filled from ART follow up form)		
17.	Is study participant on ART?	
	A. YES	B. NO
17.1	If the answer for question number 17 is yes ,line of Regimens given	
	A. First line regimens (specify dispensed drugs /code...../...../.....)	
17.2.	2 nd line regimens (specify dispensed drugs /code...../.....)	
17.3.	If the answer question number 17 is yes ,adherence level for ART	
	A. Good	B. fair
		c. poor
18.	At base line type of OI prophylaxes given	
	A. IPT	
	B. Cotrimoxazol	
	C. Fluconazole	
	d. Other specify	
19.	If prophylaxes given on question number 18 ,adherence level of prophylaxes	
	A. Good	B. Fair
		C. Poor
	V. Recent clinical ,laboratory ,ART profile (filled from ART follow up form) within 01 month	

20	IS study participant recently on ART? A. yes B. NO	
20.1	IF The answer question 20 is yes ,line of regimens given A. First line regimens (specify dispensed drugs /code...../...../.....)	
20.2	2 nd line regimens (specify dispensed drugs /code/...../...../.....) If the answer question number 20 is yes ,adherence level for ART A. GOOD B. Fair C poor	
20.3	Recent WHO clinical staging A. I B. II C. III D. IVE.Others	
20.4	Recent CD4 count (.....)	
20.5	Recent hemoglobin (Hgb) level (.....)	
20.6	Recent wt (.....)kg	
20.7	Recent ht(.....)cm	
20.8	Recent functional status A. working B. Ambulatory C. Bed ridden	

VI. Clinical and systemic profile at ED		
21	VITAL SIGN	
	A. Blood pressure(.....)mmHg	
	B. PULSE...../MIN	
	C. Saturation(SPO2).....	
	D. Temperature(.....	

22	Chief complaint Signe and symptom	
	Eye	
	Ear	
	Nose	
	Throat	
	Chest	
	Abdomen	
	Genitalia	
	Extremity	
23.	DIAGNOSE at ED	
24.	Investigation ,treatment ,disposition ,and out come at ED	
	A.wbc	
	B. Hgb	
	C. chest x-ray	
	D. others.....	
25.	Given treatment	

Information consent form (Amharic version)

ሀ. ስፕናቱተሳታፊዎች መረጃ መስጫ ቅጽ

ሰላምንህ /ወይስሚ _____ ደባሳል፤፤ በዚህ ሆስፒታል /ክሊኒክ/

ውስጥ የምሰራ የጤና ባለሙያ ስሆን አይኑን የሄሌክ.አይ.ቪ.ኤድስ ህመም ተፅዕኖ ማዳረግና ሰህይ ወትረ ስጊ የሆኑ የበሽታ አይነቶችን እንደሆኑ በሚፈረስ በአዲስ አበባ የንብርስ ቲድህረ ምረቃ ተማሪ የሆኑት ሸዋ አንሰሽ ማርዴ ሰሚሰሩት ፕናት መረጃ ከሄሌክ.አይ.ቪ.ኤድስ ተፅዕኖ በሽታ ህመም ተኛች እና ከታካሚዎች መዝገብ ላይ እየሰበሰብኩት ነው፡፡ የፕናቱ ውጤት ምን ያህል /በተዘዋዋሪ/ መልኩን የሄሌክ.አይ.ቪ.

.ኤድስን የሚያስተላልፍ መሆኔን ማረጋገጥ ወይም ውስብስብ ተኛች የሚያስፈልገውን የጤና ተቋም ቁጥር እና በሱላ ደረጃ ሚና ረውን ጫና፡

ስራ ባለሙሰራት ስህክምና ስትራፖፒ በሚከፈልዋል የሚኖረውን የሄሌክ.አይ.ቪ.ኤድስ የድቀት ሳይንሳዊ ግምት ስለመስጠት ያስችላል፡፡ ይህ መረጃ ምን ያህል ሄሌክ.አይ.ቪ.ኤድስ ያለሚሰሩ ብሔራዊ.ክልላዊ፣ አካባቢያዊ የሆኑ መንግስታዊ ያልሆኑ ድርጅቶች ህኪሞች ህግ አርቃቂዎች የጠቀሙበታል ተብሎ ይታመናል፡፡ በመሆኑም ስፕናቱ አስፈላጊ የሆኑ መረጃዎች እርስዎ የሄሌክ.አይ.ቪ.ኤድስ ክትትል መዝገብ ላይ እንዲሁም ከእርስዎ በቀጥታ ይወሰዳል፡፡ አንተ/ች/ መረጃዎ እንዲወሰድ መፍቀድም ከላይ ስተጠቀሰው የፕናቱ ዓላማ መሳካት የገላ አስተዋፅዖ ይኖረዋል፡፡ በፕናቱ መሳተፍም ሀገራዊና ማህበራዊ የሆነ ታላቅ አስተዋፅዖ አለው፡፡

ፕናቱን በተመለከተ ጥያቄ ካሉዎት እኔን ወይም አጥኚውን ሸዋ አንሰሽ ማርዴ ከታች በተጠቀሰው አድራሻ መጠየቅ ይችላሉ፡፡

ስልክ:- 0911-67-23-93

Email :-shewanesh@gmail.com

ሰ. ስጥናቱ ተሳታፊዎች የፈቃደኝነት መጠየቂያ ቅጽ

ስጥናቱ ተሳታፊዎች አንዳር አንት/አንች/ ስጥናቱ ከሚያስፈልጉ ሰዎች መካከል አንዱ ነዎት አጥኚው እዚህ ሆስፒታል ላይ የምስራው እኔን ስመረጃ ሰብሳቢነት የመረተኝ የመረጃውን ምስጢራዊነት ስመጠበቅ ብሎ ነው ። ማለትም ከሆስፒታሉ ውጭ ያሉት ከሆኑ ውጭ ያሉት በመረጃ ሰብሳቢ ወቅት ስምዎንና ሴቶች መረጃዎች እንዳያዩ ሲባል ነው። ጥናቱ የሚደረገው ከኤች.አይቪ/ኤድስ ክትትል መዘገብ ላይ እና በተጨማሪም ርስዎ በሚሰጡት መረጃ ላይ ስለሆነ በእርስዎ ላይ ምንም አይነት ጉዳት አያመጣም ። ከህክምና መዘገብዎ ና እርስዎ በሚሰጡት መረጃ ላይ መረጃ ሲወሰድ የእርስዎን ማንነት የሚገልጽ ስም እና ሴሳ ምንም አይነት ነገር ወደ መጠይቁ አይሞላም የተወሰደውም መረጃ ምስጢራዊነቱ ተጠበቅ ሙሉ በሙሉ ስምርምር ስራ ብቻ ይሆናል። የህክምና መረጃዎች ስምርምር ሥራ እንዳይወል የማድረግ መብት አልዎት ። ነገር ግን መረጃው ስምርምር ሥራው ቢወል ጠቀሜታው የጎሳ ነው። በጥናቱ ለመሳተፍ ፈቃደኛ ባይሆኑ በህክምናዎት ላይ ምንም አይነት ጉዳት አይፈጥርቦትም ፤ በሴሳ በኩል መረጃው በመስጠትም የሚያገኙት የተስዩ ጥቅም አይኖርም።

መረጃው ስምርምር ስራ ቢወል ፈቃደኛ ነዎት ?

1. አይደለሁም _____

መረጃቸው ስጥናቱ ሥራ እንዲወል አልፈቀዱም
(ውይይቱ በምስጋና ይጨረሳል)

2. አዎ

(በምስጋና መረጃዎች መሰብሰብ ይጀምራል)

የመረጃው ሰብሳቢ ስምና ፊርማ የጥናቱ ተሳታፊዎች መረጃቸውን ስጥናቱ ሥራ እንዲወል ፈቃደኛ መሆናቸውን

ያመለክታል _____

ፊርማ _____

የአጥኚው ስምና _____ ፊርማ _____

የጤና ተቋሙ ስም _____

በአማርኛ የተዘጋጁ መጠይቅ

ክፍል አንድ

አጠቃላይ መረጃ

1. አድሜ

2. ልጅ

1. ወንድ

2. ሴት

3. ሐይማኖት

1.ኦርቶዶክስ

3.ሙስሊም

2.ፕሮቴስታንት

4.ሴላ(ደግቀሱ)

4. የጋብቻ ሁኔታ

1. ያገባ /ያገባች

3. የፈቱ

2. ያሳገባ/ያሳገባች

4. በሞት የተሰየ

5. የትምህር ደረጃ

1. መፃፍና ማንበብ የማይችል /የማትችል/

3.አንደኛ ደረጃ (1-8)

2.መፃፍና ማንበብ የሚችሉ

4. ሁለተኛ ደረጃ(9-12)

5. ዲፕሎማና ከዚያ በላይ

6. ስራ ሁኔታ

1. የመንግስት ስራተኛ

3. ነጋዴ

5. አርሶ አደር

2. ቀን ስራተኛ

4. ሴላ ካላ (ደገበሰ)

6. የግል ስራ

ክፍል ሁለት

ህመሙ ሲጀምር እና ከጀመረ በኋላ ያለው የጤና ሁኔታ መረጃ

(ከህመምተኛ ካርድ ላይ የሚሞላ)

7. እኛ.አይቪ.ኤድስ በደሞ ውስጥ መኖሩን ያረጋገጡት መች ነው

1. ግዜው ይጠቀስ_____

2. አላረጋገጥኩም

8. ከእኛ.አይቪ.ኤድስ ጋር ተዛማጅ የሆኑ የበሽታ አይነቶች

1. እኛ አይቪ አዲስ በደሞ ውስጥ ኖሮ የበሽታ ምልክት የማያሳይና የፀረ እኛ አይቪ መድሃኒት ያልጀመረ

2. እኛ አይቪ በደም ውስጥ ያለእና የኤድስ ምልክት የሚያሳዩ

3. እኛ ይቪ ኤድስ በደም ውስጥ ያለና ቀድሞ የፀረ እኛ አይቪ መድሃኒት የጀመረ እንሁም የኤድስ ምልክት የሚያሳይ

4. እኛ.አይቪ.ኤድስ በደም ውስጥ ያለና ቀድሞ የፀረ እኛ አይቪ. ኤድስ መድሃኒት የጀመረ ነገር ግን የኤድስ ምልክት የማያሳይ

9. ለህመሙ ህክምና ሲጀምሩ ተጓዳኝና የኤድስ ምልክት ህመሞች ከታች ከጠቀሱት ነበሩ? ካለ ከታች ከተዘረዘሩት ይጥቀሱ::

1. አልማዝ ባለጭራ

2. የሰውነት መመንመን

3. ለረጅም ግዜ የቆየ ተቅማጥ

4. የሳንባ (tb) ህመም

5. ከሳንባ ውጭ ያለ (tb) ህመም

6. የአፍ መቀሰሰ

7. የሳንባ ምች

8. በግማሽ የሰውነት ክፍል መድከም

9. ማጅራት ገትር

10. ከዚህ ቀደም እንደ ስኪና ደም ግፊት የልብ ህመም ነበር?

ሴሳ ካሳ ይጠቀስ _____

11. እኛ አይቪ እድስ ህመም ደረጃ(wHo) stage

1. ደረጃ 1 2. ደረጃ 2 3. ደረጃ 3 4. ደረጃ 4

12 ህመሙ ሲጀምር የነበረ ክብደት _____ (ኪ.ግ)

13. ህመሙ ሲጀምር ነበረ ቁመት _____ (ሲ.ሜ)

14. ህመሙ ሲጀምር የነበረ የህመምተኛው እንቅስቃሴ

1. ስራ መስራት የሚችል

2. ተመሳሳሽ ታካሚ

3. አልጋ ላይ የተኛ

ክፍል ሶስት

ህመሙ ሲጀምር የነበረ የሳብራቸሪ ውጤትና የፀረ እኛ አይቪ መድሃኒት መረጃ

(ከህመምተኛ ካርድ ላይ የሚሞላ)

15. ህመሙ ሲጀምር የነበረ የበሽታ የመከላከል አቅም (cd4) መጠን _____

16. ህመሙ ሲጀምር ነበረ የቆየ ደም ሴል ውጤት _____

17. የሳንባ ራጅ ውጤት

18. የጭንቅላት ራዲ ውጤት

ክፍል አራት

ህመሙ ሲጀምሩ የነበረ ተጋዳኝ በሽታና የጸረ ሴት ሕይሲ መድኃኒት ሁኔታ የሚገልፅ መረጃ

(ከህክምና ካርድ ላይ የሚሞላ)

17. የፀረ እኩልነት ስርዓት መደሃኒት በመውሰድ ላይ ነዎት?

1. ንዎ

2. ንድድሶም

17.ህ በቁጥር 17 ተገለጸው መጨረሻ አዎ ከሆነ ምን አይነት መድሀኒት

1. የመጀመሪያ ደረጃ መደሃኒት (ደጠቀስ) _____

2. ሆስፒታል ደረጃ መድሃኒት (ደጠቀስ) _____

17.ስ የፀረ ሴት ስደቢ መድሃኒት አወጣሰድዎ እንዴት ነበር?

1. በተከከል ሰራተኛ ጠብቂ

2. አንዳንድ ሰነዶችን አሳልፋለሁ

3. ብዙ ጊዜ እረሳሁ በደንብ እስከመሰደም/

18. **ህመሙ ሲጀምር ስተንዳኝ ህመሞች መድሃኒት ወስደው ያውቃሉ ከወሰዱ የወሰዱትን ይጥቀሱ**

1. ኢድኤን ኤች (INH)

2. ባክቲሪያ (cotrimoxzale)

3. ፍሎኑኖኒ(fluconazole)

4. ሴት ካት ይጠቀስ

19. ስተንዳኝ ህመም መድሃኒት ሲወስዱ (አዋሳሰድዎ) እንዴት ነበር?

1. ጥሩ በትክክል ሳሳቋርጥ

2. አንዳንድ ሰዓቱን አሳልፋለሁ

3. ብዙ ግዜ ያት እረሳለሁ

ክፍል አምስት

በአሁኑ ሰዓት (ህመምተኛው) ድንገተኛ ክፈል ሲመጣ ያለው የጤና ሁኔታ (በአንድ ወር ግዜ ውስጥ)

20.ሀ. ህመምተኛው የፀረ ሴች አይቪ መድሃኒት በመውሰድ ሳይ ናቸው?

ሀ. አዎ

ሰ. አይደለም

20.ሰ. ሰቁፕር 20 መልስ አዎ ከሆነ

1. የመጀመሪያው ድርሻ መድሃኒት (ደጠቀስ)_____

2. ሁለተኛ ደረጃ መድሃኒት _____

20.ሐ የመድሃኒት አወሳሰድም ሁኔታ እንዴት ነበር?

1. በትክክል ሰዓቱን ጠብቄ

2. አንዳንድ ሰዓት አሳልፋለሁ

3. ብዙ ግዜ ሳልወስድ እረሳለሁ

20.መ. በአሁኑ ሰዓት ያለ የህመም ደረጃ(WHO) stage

1. ደረጃ1

2. ደረጃ2

3. ደረጃ3

4. ደረጃ4

20.ሰ በአሁኑ ሰዓት ያለ በሽታ የመከላከል አቅም (cd4)

20.ረ በአሁኑ ሰዓት ያለ የቀደ ደም ሴል _____

20.ሠ. በአሁኑ ሰዓት ያለ የነጭ የደም ሴል _____

20.ሸ በአሁኑ ሰዓት ያለ ክብደት _____(ኪ.ግ)

20.ቀ በአሁኑ ሰዓት ያለ ቁመት _____(ሴሚ)

20.በ. በአሁኑ ሰዓት ያለ አንቅስቃሴ

1. ስራ መስራት የሚችል
2. ተመሳሳሽ ታካሚ
3. አልጋ የያዘ

ክፍል ስድስት

ድንገተኛ ክፍል በመጡበት ጊዜ ያለ የጤና ሁኔታ የሚገልፅ መረጃ

21. የወስጥ ሰውነት ህመም የሚገልፅ መረጃ

1. የደም ግፊት _____
2. የልብ ምት በደቂቃ _____
3. በሳንባቸው ውስጥ ያለ የቅክለኛን መጠን _____
4. የሰውነት መቀነስ _____

22. የህመምተኛው ዋናዋና ችግሮች (ስድንገተኛ ህክምና ያመጣው)

- በሰውነት አካሎች ላይ የሚታዩ ምልክቶች

አይን

ደረት

ጆሮ

ሆድ

አፍንጫ

እግር አካባቢ

ጉሮሮ

23. የህመሙ አይነት ድንገተኛ ህክምና ክፍል ውስጥ የተገኘ (የተረጋገጠ የበሽታ አይነት)

24. በድንተኛ ህክምና ክፍል የተደረገ ምርምር (ናሙና) ክትትል እና ውጤት

1. የነጭ የደም ሴል ውጤት

2. የቀይ የደም ሴል ውጤት

3. የሳንባ ራጅ ውጤት

4. ሴሎች ካሉ ይጠቀሱ_____

25. በድንገተኛ ህክምና ክፍል የተሰጠ መድሃኒትና ሴሎች እርዳታዎች ይጠቀሱ_____

26. የህመምተኛው የመጨረሻ ሁኔታ (ውጤት)

1. መተኛት (በድንገተኛ ክፍል)

2. ድንገተኛ ህክምና እግኝት ወደቤት መመለስ

27. የመጨረሻው የህመምተኛው ሁኔታ

1. ሰውጥ አምጥቷል (ተሸሎታል)

2. ሰውጥ የሰውም

3. ብሶበታል

4. ህይወቱ አልፏል

Principal investigator

Shewanesh Marye ----- -- ----- student's name
signature date

Approved by

1. Dr.Aklilu Azazh -----
Adviser signature date

2 Dr.wondwossen Amogne -----
Adviser signature date

3 Heyria Hussien -----
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2. -----
Chairman, faculty's/Institute's signature date
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3. -----
Chairman, faculty's/Institute's signature date
IERB

4. -----
Dean Graduate school signature date