

# Socio-demographic and clinical profile of AIDS patients in Jimma referral Hospital, Southwest Ethiopia

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## Abstract

**Background:** A number of studies conducted in Jimma have shown that HIV/AIDS is a serious public health problem in the area. But the profile of HIV patients and the risk factors for acquiring HIV infection have not been studied.

**Objective:** This study is aimed at determining the modes of clinical presentation, sociodemographic characteristics and risk factors accounting for the exposure to HIV infection.

**Methods:** A five year retrospective review of HIV/AIDS patients registered in Jimma hospital was conducted. All HIV/AIDS patients that were registered in Jimma Hospitals AIDS control programme (ACP) were studied by collecting data from ACP formats and individual medical records. Data were analyzed by SPSS-PC computer software.

**Results:** A total of 925 patients were studied. Male to female ratio was 1.1 to 1. A majority of the patients are from urban areas and the mean age was 27.8 years; (30.6 years for males and 25 years for females). A majority of the patients i.e., 426 (46.1%) were in the 20-29 years age group. Unemployment was the common among 173 (20%) subjects followed by housewives and soldiers and /or ex-soldiers. Multiple sexual partnerships, a history of STDs and sex with commercial sex workers were the three major risk factors identified, in 54.8%, 48.1% and 24.9% of the cases, respectively. Three quarters of the patients had weight loss, followed by fever in 650 (70.4%) and diarrhoea in 421 (45.4%). Tuberculosis was the commonest specific diagnosis. Other previously rare presentations were also noted.

**Conclusion:** The change observed in the distribution of HIV/AIDS cases in Jimma indicates the maturation of the HIV epidemic. The heterosexual nature of the transmission indicates the need for intervention aimed at reducing risky sexual behaviours. [*Ethiop.J.Health Dev.* 2004;18(3):203-207]

## Introduction

HIV/AIDS is a global public health concern that mainly affects the sub-Saharan Africa. According to the report by Joint United Nations programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) about 40 million people were living with HIV /AIDS in the world by the end of 2003 of which 26.5 million are from sub-Saharan Africa (1). Overall, WHO estimates that 90% of HIV cases worldwide are acquired by sexual contact higher prevalence of mother to child transmission were reported from Africa. A majority of HIV/AIDS cases occur among the sexually most active years, but on average women get infected at an earlier age than men. Over the past decade, it has become clear that the epidemiology of HIV is not homogenous through out the world but it is in continuous evolution (2).

In Ethiopia the first two seropositive cases were reported in Ethiopia in 1984 from Addis Ababa, the capital city, and the first two AIDS cases were reported a couple of years later (3). Since then a growing number of cases have been reported to the Ministry of Health (MOH) from different areas of the country. According to the MOH, the total number of adults and children living with HIV/AIDS in 2001 was estimated to be 2.2 million of which children comprise 200,000. Both men and women were equally affected. Majority of the infections were reported from among the 25-34 years age group. A

moreover, the number of Tuberculosis cases has progressively increased (4).

In 1990, Negassa and Kefenie reviewed 636 HIV/ AIDS cases that were reported to the Ministry of Health (3). Majority, 87.6% were from hospitals in Addis Ababa. Male to female ratio was 2.3 to 1. The average age for both sexes was 31.1 years, with 32.9 years for the males and 26.9 for the females. The most commonly reported age group was 20-29 years for both sexes. Sexual contact with multiple partners, a history of STDs and injections received outside medical institutions were the three major risk factors identified. Weight loss was found in 91.4 % of the patients, chronic fever in 85.2 % and chronic diarrhoea in 46.5%. Tuberculosis was the commonest specific disease found in 32.5% of the cases followed by oropharyngeal candidiasis in 17.5%. A majority of the patients, 54.7% were unmarried. In the same year Tsega E. reviewed 100 HIV infected patients that were admitted to Tikur Anbessa Hospital (5). Very similar sociodemographic (age, sex and marital status) and clinical pattern was noted. In both studies pneumocystis carinii pneumonia, PCP Toxoplasmosis and kaposi sarcoma CNS were absent.

Mother-to-child-transmission is the main mode of transmission of HIV in children. It is estimated to be 29-47 % in Ethiopia (6). The Paediatric age group accounted for 1.6% of the cases in Negassa and Kefenie's series.

Later a study by Bedri and Lulseged on pediatric HIV showed that tuberculosis was the commonest diagnosis (7).

In Jimma, from a national survey on HIV among Commercial Sex Workers (CSW) conducted in 1988, seroprevalence was  $9.7 \pm 2.5$  % (8). A cross-sectional survey of HIV infection among antenatal care attendants of Jimma Hospital was done from April 1993 to May 1994(9). The seroprevalence was 8.6%. HIV was more common among young mothers and unmarried ones. Among HIV cases one or more risk factors were identified in 45% of subjects. According to the national sentinel surveillance programme, the seroprevalence was 8.6% in 2001. From the pattern of medical admissions in Jimma Hospital, HIV/AIDS was found to be the commonest secondary diagnosis among hospitalized patients in the Medical wards (10). However, the profile of HIV patients in Jimma is so far not described and reported.

This study is aimed at identifying the sociodemographic characteristics, clinical presentations of HIV/AIDS patients and the possible risk factors for acquiring HIV infection.

### Methods

The study was undertaken in Jimma hospital, which serves as a teaching and referral hospital for southwestern Ethiopia region. This is a five-year retrospective cross-sectional study of all HIV/AIDS patients registered in the hospital's AIDS control programme (ACP) from July 1993 to June 1997. The hospital ACP has the responsibility of screening, counseling, registering and follow up of HIV/AIDS cases. Seropositive cases are periodically reported to the zonal Health Department. The office is staffed by a trained general practitioner on HIV and a nurse counsellor. Data on all suspected cases socio-demography, risk factors to acquire HIV and clinical features and after screening serostatus of patients are recorded on the national AIDS surveillance formats seropositive cases were identified and data from the ACP formats and individual medical records were recorded on a separate structured format by the principal investigator. The diagnosis of HIV infection was made on the basis of two reactive sera on double ELISA test as recommended by WHO. Paediatric HIV is diagnosed on a 15 months old child who is seropositive for HIV. As a retrospective review in a teaching hospital and as the great majority of diseases can be diagnosed with reasonable accuracy by clinical and some paraclinical data, the diagnosis made by the attending physician is taken as found on the records. The data were analyzed using SPSS-PC computer software. Distribution of variables was compared using T-test and chi-square test when appropriate. The study obtained ethical clearance from Jimma University Research and Publication Office that

was endorsed by the Jimma Hospital Medical Director's office.

### Results

A total of 925 patients that were seen from July 1993 up to June 1997 were studied. Males were 473 and females numbered 452 with a male to female ratio of 1.1 to 1. The mean age of both sexes was  $27.8(\pm 10.7)$  years. Male patients were older than the females,  $30.6 \pm 10.6$  &  $25 \pm 10$  years respectively ( $t=8.2; P<0.001$ ). Nearly half of the patients were in the age range of 20-29 years followed by others in the 30-39 age groups, which comprised a third of all patients. Pediatric HIV accounted for 6.4% of the cases (Table 1).

Table 1: **Distribution of HIV/AIDS patients by age and sex at Jimma Hospital, July 1993 - June 1997.**

| Age group (Years) | Male # (%)          | Female # (%)     | Total (No %)        |
|-------------------|---------------------|------------------|---------------------|
| 0-9               | 25(5.3)             | 34(7.5)          | 59(6.4)             |
| 10-19             | 4(0.9)              | 47(10.4)         | 51(5.5)             |
| 20-29             | 186(39.3)           | 240(53.1)        | 426(46.1)           |
| 30-39             | 181(38.3)           | 95(21.0)         | 276(29.8)           |
| 40-49             | 54(11.4)            | 27(6.0)          | 81(8.8)             |
| 50-49             | 19(4.0)             | 9(2.0)           | 28(3)               |
| 60+               | 4(0.8)              | 0(0.0)           | 4(0.4)              |
| <b>Total</b>      | <b>473(51.1%)</b>   | <b>452(48.9)</b> | <b>925(100.0)</b>   |
| <b>Mean age</b>   | <b>30.6(± 10.6)</b> | <b>25(±10.6)</b> | <b>27.8(± 10.7)</b> |

Distribution according to place of residence showed that two-thirds of the patients were from Jimma town. Overall 96% of the patients were from urban areas. The number of patients arriving was shown to increase over the first three consecutive years by 50% and 100 % serially, with a slight drop on the fourth year. On the final year screening was interrupted for more than a quarter of the year, despite which there were still as much as two thirds of the cases of the third year.

The educational status of the patients varied from the illiterate to the highly educated ones. Information was not available in one-third of the patients. Most patients attended secondary school (23.6%) followed by those who attended elementary school education (18.9%) (Table 2).

The unemployed, housewives, military personnel and government employees comprised two-thirds of the cases (Table 2). Marital status of the patients showed that majority were married 346 (40%) followed by singles 316(36.6%) (Table 3).

One or more risk factors for the acquisition of HIV were identified in two-thirds of the patients. The commonest was a history of multipartnering (54.8%) followed by a history of STDs (48.1%) and sex with female sex workers (FSW) (24.9%). Multiple sexual partnerships were more common among males (58.9%) than females (40.1%). Blood transfusion was a risk factor in 3% of the patients (Table 4).

**Table 2: Distribution of HIV/AIDS patients by occupation and educational status Jimma Hospital, July 1993 – June 1997.**

| Occupation                    | Number (%)       |
|-------------------------------|------------------|
| Unemployed                    | 173 (20.0)       |
| House wife                    | 128 (14.8)       |
| Military personnel            | 128 (14.8)       |
| Government Employee           | 126 (14.5)       |
| Merchant                      | 54 (6.2)         |
| Commercial Sex workers        | 51 (5.9)         |
| Students                      | 41 (4.7)         |
| Daily labourer                | 34 (3.9)         |
| Bar owners                    | 29 (3.3)         |
| Driver                        | 17 (2.0)         |
| Farmer                        | 11 (1.3)         |
| House maids                   | 3 (0.3)          |
| Tella/Tej Sellers             | 2 (0.2)          |
| Others                        | 36 (4.2)         |
| Unknown                       | 34 (3.9)         |
| <b>Total</b>                  | <b>867 (100)</b> |
| Educational status            |                  |
| Higher Institutions           | 38 (4.4)         |
| 12 <sup>th</sup> Completed    | 92 (10.6)        |
| Secondary School (6-12 Grade) | 204 (23.6)       |
| Elementary School             | 164 (18.9)       |
| Read and/or write             | 11 (1.3)         |
| Illiterate                    | 68 (7.9)         |
| Unknown                       | 289 (33.3)       |
| <b>Total</b>                  | <b>866 (100)</b> |

**Table 3: Distribution of HIV/AIDS patients by marital status, Jimma Hospital, July 1993 – June 1997.**

| Marital Status | Male       | Female     | Total No (%)     |
|----------------|------------|------------|------------------|
| Single         | 184        | 132        | 316 (36.5)       |
| Married        | 203        | 143        | 346 (39.9)       |
| Divorced       | 51         | 99         | 150 (17.3)       |
| Widowed        | 7          | 43         | 50 (5.8)         |
| Unknown        | 2          | 2          | 4 (0.50)         |
| <b>Total</b>   | <b>447</b> | <b>419</b> | <b>866 (100)</b> |

**Table 4: Distribution of HIV/AIDS patients by risk factors, Jimma Hospital, July 1993 – June 1997**

| Risk Factor       | Number (%) |
|-------------------|------------|
| MPSC*             | 507(54.8)  |
| History of STD    | 445(48.1)  |
| Sex with FSW      | 230(24.9)  |
| Perinatal         | 59(6.4)    |
| Blood Transfusion | 28(3.0)    |
| Others            | 10(1.0)    |

\* MPSC, multiple partner sexual contact is history of having sex with more than one individual.

**Table 5: Number and percentage of HIV/AIDS patients by sex and clinical manifestations, Jimma Hospital, July 1993 – June 1997.**

| Clinical manifestations         | Male | Female | Total (%)  |
|---------------------------------|------|--------|------------|
| Weight loss                     | 359  | 359    | 718(77.6)  |
| Chronic fever                   | 331  | 319    | 650 (70.2) |
| Chronic Diarrhoea               | 220  | 200    | 420 (45.4) |
| Generalized pruritic dermatitis | 133  | 135    | 268 (28.9) |
| Tuberculosis                    | 137  | 102    | 239 (25.8) |
| PGL                             | 114  | 108    | 222 (24.0) |
| Herpes Zoster                   | 115  | 88     | 203 (21.9) |
| Candidiasis                     | 101  | 99     | 200 (21.6) |
| Neurological disorders*         | 15   | 4      | 19 (2.1)   |
| Severe HSV <sup>#</sup>         | 9    | 7      | 16 (1.7)   |
| Pyomyositis                     | 4    | 3      | 7 (0.8)    |
| PCP <sup>‡</sup>                | 2    | 4      | 6 (0.6)    |
| Gynecological disorders         | -    | 3      | 3 (0.3)    |
| Eye disorders                   | 2    | 1      | 3 (0.3)    |
| Kaposi Sarcoma                  | 2    | 1      | 3 (0.3)    |

\* Does not include Herpes Zoster and CNS tuberculosis; <sup>#</sup> Herpes simplex Virus;

<sup>‡</sup> Pneumocystis carinii Pneumonia

Majority of patients presented with weight loss, chronic fever and chronic diarrhoea i.e. 77.6%, 70.2% and 45.4% respectively. Among the specific diagnosis made, tuberculosis was the commonest (239 patients, 25.8%) while oropharyngeal candidiasis was the second most common (200 patients, 21.6 %). Other presentations like neurological disorders, pyomyositis, Pneumocystis carinii pneumonia, gynaecological and ophthalmic manifestations were noted (Table 5).

Among patients with neurological disorders (excluding Herpes Zoster and the central nervous system (CNS) Tuberculosis) nearly half (9/19) had CNS Toxoplasmosis, five had Bell's palsy, three had HIV myelopathy and two had Dementia complex. Among the patients with gynecological manifestations, two had tubo-ovarian abscess and one had acute pelvic inflammatory disease with a protracted clinical course. All patients with ophthalmic disorders had retinopathy,

two with HIV retinopathy and one with cytomegalovirus (CMV) retinitis.

### Discussion

HIV/AIDS commonly occurs among the sexually active and productive age group. The same pattern was noted in the present study, with three – quarters of the patients being in the age group of 20 to 39 years, as was also observed earlier in Ethiopia and Malawi (3,5,12).

The male to female ratio was 1.1 to 1, suggesting predominant heterosexual transmission (2). A similar finding was reported from Uganda and Malawi (12, 13). However, earlier studies have found a higher male to female ratio of AIDS cases in Ethiopia (3, 5). This might be partly explained by the fact that if the epidemic started around a core group of sex workers and their clients, since several clients would be infected by a lower number of sex workers, the male to female ratio would be high. Later, when the epidemic spreads to the regular partners i.e. wives of sex worker's clients, the ratio tends to decrease (14).

The mean age of both sexes was 27.8, which is lower than the findings by Negassa and Kefenie, 31.1 and the National AIDS Control Programme (ACP) report which was 30 years (11). It is said that as the epidemic matures, the large number of people becoming sexually active will replenish the pool of susceptible people, especially in developing countries, where the age pyramid is broad (8). New infections, therefore, will occur in young people, shifting the peak age of HIV/AIDS cases to the younger age. Similar to other studies in Africa, women patients are much younger than men (13,15,16). This may indicate an early starting of sexual activity and partnership of women with older men, with high HIV prevalence (17).

Worldwide heterosexual transmission is the most common mode of transmission. In this study, over three-quarters of the patients were in the sexually active age group of 20 – 39 years. Moreover, multipartnering, a history of STDs and sex with commercial sex workers were the leading risk factors identified, which is in agreement with earlier findings (3). This shows that most of the transmission of HIV in this study group could be sexual and hence it emphasizes the need for promotion of safe sexual behavior and strengthening of the STD Control Programmes.

Overall, there is a tendency for the increase in the number of cases over the years. This could partly be due to the increased awareness of health personnel on the varied features of HIV and/or the worsening of the epidemic.

The predominance of patients in urban areas corresponds to the obvious character of the HIV epidemic,

concentrating first on the urban trading centers and then spreading to the rural areas.

Pediatric HIV occurs commonly by perinatal transmission from the mother to the infant. The rate of transmission appears somewhat higher in African countries, with a 39% rate reported from Zaire and Zambia, partly due to the contribution of breast-feeding in the transmission (18,19). In the present study, pediatric HIV constitutes 6.4% of the cases. Negassa and Kefenie's finding and the National ACP reports were much lower, 1.6% and 1.9%, respectively, where under reporting was considered.

The major manifestations of HIV/AIDS, reported in this study namely: weight loss, chronic fever and diarrhoea are comparable with previous reports (3,5,20). This further supports their importance to suspect the presence of HIV in an individual with such symptoms, in spite of the increasing occurrence of other symptoms.

In sub-Saharan Africa where tuberculosis is highly prevalent, it is said to be the commonest presentation next to oral candidiasis, in HIV patients (16). Here, TB is found to be the leading specific diagnosis, similar to Tsega E. report (5). This fact is also supported by the high prevalence of co-infection with HIV as reported by Gellete and his colleagues (21).

Other clinical complications, like neurological disorders, pneumocystis carinii pneumonia, kaposi sarcoma and gynecological disorders were also noted. These were notably absent in Tsega's series. Even though these manifestations are not specifically listed in the present ACP format, one needs to be aware of their occurrence in HIV patients as they are also included in the case definition of Centers for Disease Control and Prevention (CDC) (22). However, this study did not separately analyze the clinical features of pediatric HIV, which is different from adults as detailed information was mostly lacking.

In conclusion, the changes observed in the distribution of HIV cases in Jimma indicate the maturation of the epidemic, i.e. from an infection affecting a core group of sex workers and their clients, to an epidemic affecting all population groups including children. The heterosexual nature of the transmission supports interventions aimed at reducing risky sexual behaviors.

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