PROFILE OF AIDS CASES IN ETHIOPIA

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SUMMARY: After the first AIDS case was identified in Ethiopia in February 1986, 636 cases have been reported through November 1990. A marked increase in the number of cases was noted from year to year during the five years: 0.3% of. all cases were reported in 1986, 2.7% In 1987, 13.4% in 1988, 28.5% in 1989 and 55.2% up to end of November 1990. The large majority of the patients (87.6%) were diagnosed in Addis Ababa hospitals; the remainder were reported from regional hospitals. 445(70.0%) of all patients were males; 191 were females; with a male to female sex ratio of2.3:1. The average age for both sexes was 31.1 years with 32.9 years for males and 26.9 years for females. Sexual contact with multiple partners, history of Sills, and injections received outside of medical institutions, were the three major risk factors identified in 61.3%,45.6% and 7.9% of the patients respectively. Of the three major clinical features of the WHO case definition, marked weight loss (failure to thrive), was found in 581 (91.4%) of the patients, prolonged fever > 1 month in 542 (85.2%) cases and chronic diarrhea in 296 (46.5%) of the patients. Generalized lymphadenopathy, persistent cough for over 1 month, and generalized pruritic dermatitis were the common minor symptoms identified. It was documented that 361 (60.1 %) of the patients were alive; 163 (27.2%) died.

INTRODUCTION

The pandemic of human immuno deficiency virus (HIV) and its clinical manifestation, AIDS, has continued to increase rapidly during the past decade. As of 31 October 1990, the cumulative total of AIDS cases reported to the World Health organization (WHO) was 298,949 (1). However, WHO has estimated that the cumulative AIDS total as of late 1989 was actually over 500,000, when the effects of extensiveunder-recognition, under-reporting and delays in reporting AIDS cases are recognized (2).

The profile of AIDS patients has been reported from different countries of the world, including certain African countries. This documented profile is the first of its. kind from
Ethiopia; it is prepared with the aim of bringing the profile of Ethiopian AIDS patients to the attention of our physicians. The first two Ethiopian AIDS patients were reported in 1986. Since then, cases have been reported to the Department of AIDS Control of the Ministry of Health on a monthly basis, from 30 regional and 18 Addis Ababa hospitals. A review of 636 cases reported from 1986 to the end of November 1990 is made with the aim of identifying socio-demographic background, possible risk factors involved in acquiring the disease, and the clinical profile noted in Ethiopian AIDS patients.

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METHODS

From 1986 to the end of 1988 AIDS patients were reported to the Department of AIDS Control Programme using a simple reporting format, without an efficient monitoring system. From the beginning of 1989, cases were reported from the entire country through
the AIDS case surveillance network, which allowed for an efficient referral and monitoring system. The backbone of the network were thephysicians appointed at each medical facility to be responsible for reporting of cases to the Ministry of Health. For the diagnosis of AIDS patients, the WHO clinical case definition was used together with positive serology, which included double enzyme linked immunosorbent assay (Wellcozyme Recombinant) and confirmed by Western Blot (BIORAD). Reports on con- firmed cases were sent to the Department of AIDS Control of the Ministry of Health, where they were entered in the micro-computer of the Department. The analysis that is given is the compiled results of all AIDS cases reported, from 1986 up to the end of November 1990. Both prospective and retrospective analyses were made in order to document the profile of AIDS in Ethiopia.

RESULTS

A total of 636 AIDS patients were reported from 1986 up to the end of November 1990 (Table 1). Prior to 1988, not more than 1 patient was reported a month; however , during 11 months of 1990,.an average of 31 patients were reported monthly.

Table 1. Distribution of AIDS cases in Ethiopia,

1986 -Novenber 3D, 199D

Year	Cases	% of total cases
1986	2	0.3%
1987	17	2.7%
1988	85	13.4%
1989	181	28.4%
1990	351	55.2%
Total	636	100.0%

The age and sex distribution of the cases is shown in table 2. There were 445 (70.0%) male cases and 191 females, with a male to female sex ratio of2.3:1. 499 (78.5%) patients were in the age group 15-39 years; 10 (1.6%) cases were under 5 years of age. The average age for both sexes was 31.1 years: 32.9 years for males (with a mode of 30 years and median of 31), and 26.9 years for females (with a mode of 20 years and median of 25). On the average, males were 6 years older than the females; the male to female sex ratio for age group of 20-39 year was 2: 1.

Table 2. Age and sex distribution of AIDS cases
reported in
Ethiopia, 1986 -Novenber 30, 1990

Age group	Sex - Males	Females	Total (%)
< 1	5	3	8 (1.~
1 -4	0	2	2 (0.3%)

5- 14 0 0 0 (0.0%)
15- 19 17 15 32 (5.0%)
20- 29 158 109 267 (42.0%)
30- 39 156 44 200 (31.5%)
40- 49 75 11 86 (13.5%)
50- 65 31 7 38 (6.0%)
> 65 3 0 3 (0.4%)
tOtal 445 191 636 -
(69.97%) (30.03%) (100.00%)
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394 (62.0%) of the patients were residents of Addis Ababa; the remainder, 242, were from 26 administrative regions of the country. Of the 30 administrative regions, V (90%) have one or more AIDS cases reported in their areas.

Table 3 shows the risk factors identified in these patients. 390 (61.3%) cases gave a history of having practiced multiple sexual contacts, while 290 (45.6%) patients had one or another type of sexually transmitted diseases (STDs).

156 (54.7%) patients were unmarried (single or divorced); 74 (22.9%) were married.
In 54 (19.4%) patients there were no data documented concerning their marital status(table 4).

Of the three major WHO diagnostic criteria, marked weight loss (failure to thrive) was found in 581 (91.4%) cases, prolonged fever over 1 month in 542 (85.2%), and chronic diarrhea for > 1 month in 296 (46.5%) patients.

Of the minor clinical manifestations, persistent cough for over > 1 month was the most common symptom, and was documented 348 (54.7%) cases (table 5). Of the 636 patients, 60.0% are know be alive and V .2% died.

Table 6 identifies the types of occupations the patients were engaged in. The most common are military personnel (15.5%) and government employees (14.3%).

Table 3. Risk factors identified among 636 AIDS cases recorded in Ethiopia, 1986 -Noventler 30, 1990

Risk Factors	NlJ1tJer	%
History of Multi Partner Sexual Contact (MPSC)	390	61.3%
Historyof STD	290	45.6%
Illegal Injection	50	7.9%
Blood Transfusion	20	3.1%
Other	11	1.8%

DISCUSSION

The first AIDS cases were described in the USA in 1981. Since that time, the disease was registered in nearly all countries of the world. Of all cases reported to WHO until 31 October 1990, 75,677 (25.3%) patients were from African countries (1).

The first two AIDS patients were diagnosed in Ethiopia in 1986; since then, a progressive increase was noted resulting in 636 cases reported by the end of November 1990. This trend is similar to the situation seen in many African countries. In Zomba Hospital of Malawi, the number of diagnosed AIDS patients rose from 2 per month in September 1986, to more than 30 per month in the third quarter of 1988 (3). A similar progression was reported from Kenya (4).

Over three quarters of Ethiopian AIDS patients were in the sexually active age group: between 15-39 years, with a mean age of 31.1 years. 69% of 399 MulagoHospital, Kampala, patients reported from April 1987 -April 1988, were between 21-35 years (6).

This indicates that sexual acts are the most frequent mode of HIV transmission in various African countries, including Ethiopia. In addition multiple sexual contacts and high frequency of sexually transmitted diseases (STDs) reported in our patients strongly suggest that heterosexual transmission is a major mode of transmission. This is similar to a northern Tanzanian report of 200 patients with promiscuity (60.5%), travel (53.5%) and sms (44.5%) (9).

There is a general belief that paediatric HIV infection1AIDS is a common finding in sub-Saharan Africa (7), yet there were only 10 (1.6%) Ethiopian cases reported who were under the age of 5 years. This may indicate under-reporting, and calls for active assessment of the magnitude of the problem in this group.

This is in contrast to Ugandan situation, where 9% of 5142 cases reported up to the end of July 1988 were below 5 years, and there were only 18 cases between 5-12 years (5). The Ugandan data confirms a bimodal distribution of cases in early childhood and during the peak of sexual and reproductive activity.

The male to female ratio is about 1: 1 for HIV infection/ AIDS in the Pattern II area (2,3,5). In Ethiopia, this ratio was 7:3, In the absence of homosexual practices, the only
possible explanation one could give at this stage is that more male population visited health institutions for medical care than females (8). This is similar to a report from Kilimanjaro Christian Medical Center of Tanzania, where a ratio of 2:1 was found in 200 AIDS patients admitted between 1985 and 1988 (9).

The fact that the AIDS patients registered in Ethiopia were residents of 27 of the 30 administrative regions, indicates the nationwide spread of the disease. The Addis Ababa hospitals have better investigation and management facilities; many patients with a "difficult"

Table 4. Marital status of adult AIDS
cases reported in Ethiopia, 1986 -
Novenber 30, 1990
Sex
Marital

Status Male Female Total (X)
Divorced 24 49 73 (11,7%)
lIidowed 3 8 11 (1.8X)
Married 143 42 185 (29.6X)
Single 204 68 272 (42.SX)
Unk. 66 19 85 (13.6X)
Total 440 186 626 (100.0X)

diagnosis are referred to these institutions. This may be one of the reasons that the regional hospitals reported only 12.4% of all cases. Further strengthening of the diagnostic capabillty and facilities of the regional and rural hospitals, as well as staff training, is required.

Table 5. Clinical manifestations observed in AIDS patients recorded in Ethiopia, 1986 -Novenber 3D,
1990
Clinical Manifestations: N...tJer X
..
Major S~toms
(IlHO/Clinical Case Definition)
lIeight Lose > 10X of body weight
(failure to thrive) 581 91.4
Prolonged fever for >1 month 542 85.2
Chronic diarrhoea for >1 month 296 46.5
Minor S~toms
(IlHO/Clinical Case Oefinition)
Persistent cough for >1 month 348 54.3
Generalized Iyn'f)hadenopathy 271 42.6
Tuberculosis, Pulmonary and/or 224 35.2
disseminated
Oropharyngeal candidiasis 111 17.5
Recurrent herpes zoster 105 16.5
Generalized pruritic dermatitis 93 14.6
CNS derangement 69 10.9
Pneumonia 37 5.8
Kaposi's sarcoma 5 0.8

The major clinical manifestations in Ethiopian patients were to a large extent, similar to the observations in many African countries. The Kilimanjaro Christian Medical Center registered similar frequencies of weight loss (92.0%) and diarrhea (75.5%), in 200 cases (9).

However, this contrasts with the report of Zomba Hospital of Malawi (3), where weight loss was observed in 79% of cases and prolonged fever in 49% . The minor symptoms and signs found in Ethiopian AIDS patients were also identical to many east and central African patients. In the Kilimanjaro Christian Medical Center skin diseases, oral candidiasis and lymphadenopathy were found in 74%, 52% and 34% of the patients respectively (9). Of 352 patients of Zomba

Hospital of Malawi, chronic cough was seen in 52% of cases, generalized lympha denopathy in 27% and oropharyngeal candidiasis in 23% (3).

There were 69 Ethiopian AIDS patients diagnosed with central nervous system derangement, which ranged from lethargy to coma, but due to lack of diagnostic facilities (as is the case in may African countries) the underlying cause was not known. The frequency of different opportunistic infections affecting the nervous system in African AIDS patients remains to be established (10).

Recurrent herpes zoster is said to be an early and readily detectable manifestation of HIV induced immunosuppression. The dramatic increase of herpes zoster is linked to the spread of HIV infection (11). Thus, any case presenting with herpes zoster should cast suspicion of AIDS.

To the best of our knowledge, Kaposi's sarcoma was never diagnosed in Ethiopia before the era of AIDS; 5 cases have been diagnosed in the recent years related to HIV infection. The analysis made in Uganda of 407 new cases exhibiting Kaposi sarcoma, shows changes in the epidemiology and pathology of the disease in comparison to the previous years (12).

Table 6 Distribution of AIDS patients byoccupa. tion,1986 -Novenber 30, 1990

Occupation type	N~r	X
Bar owners	4	0.6
Daily laborers	20	3.1
Drivers	59	9.3
Farmers	7	1.1
Government ~loyees	91	14.3
House-maids	18	2.8
House wives	12	1.9
Mechanics	14	2.2
Merchants	33	5.2
Military	99	15.5
Prostitutes	51	8.0
Sailor	1	0.2
Students	15	2.4
Tella/Tej Sellers	10	1.6
I/aiters	7	1.1
Others	75	11.8
Unknown	120	18.9
Total	636	100.0

There were 16 cases of pneumocystic carinii pneumonia (PCP) in Ethiopian AIDS patients who were diagnosed solely on clinical grounds (except one diagnosed abroad), and thus thP diagnosis should be taken with caution. PCP is a very rare finding in African AIDS patients, in contrast to its high prevalence in European and North American patients. No p . Carinii was identified from bronchoalveolar washing of 40 HIV -I sero-positive patients with pulmonary infiltrates of Mulago Hospital, Kampala (13). There is a clear association between tuberculosis and AIDS. In Ethiopia, over 18% of all cases had tuberculosis (mainly pulmonary and disseminated forms. HIV seroprevalence rates ranging between 10 and 50% are observed antong patients with tuberculosis

in several countries in sub-Saharan Africa. These rates are five to ten times higher than in control groups (14).

The varied list of the patients' occupations indicates that any individual could become infected irrespective of the work a person does. The army staff appear to be the most affected as documented in the records. However, the availability of better access to medical facilities for the military personnel may bias these figures. It is the risk practice of the individuals that matters in acquiring or transmitting HIV.

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