Review article

The progression of HIV / AIDS in Ethiopia . Hailegnaw Eshetel, Tefera Sahlul

Background: The following is a review on HIV / AIDS in Ethiopia based on available literatures and situational analysis of broader and emerging issues that are believed to have aggravated the situation of HIV / AIDS in Ethiopia. The objective of the review is to increase awareness of the health workers, students and interested researchers on the magnitude of HIV / AIDS in the country by discussing risk factors affecting its distribution. In addition the paper aims at stimulating coordinated preventive efforts among governmental and non-governmental organizations, policy makers and health care providers in general. Intervention strategies are suggested based on the issues raised in the paper. [Ethiop. J. Health Dev. 1996;10(3):179-190]

Magnitude of the AIDS problem

Compared to other African countries, the situation of HIV / AIDS had not been a serious problem in Ethiopia until recently. The first two seropositive cases were reported in Ethiopia in 1984 from Addis Ababa, the capital city (2). In 1986, out of 146 serum samples collected from healthy female populations of various occupations, mostly street girls, four individuals (2.7%) were HIV positive (3). The first two AIDS cases were also reported in 1986 (4).

According to surveys on HIV infection in 1988 in 23 urban areas, among females with multiple partner sexual contacts, HIV infection was found to be widely spread in the urban areas of Ethiopia. The prevalence varied between 1.3% in the northern parts of the country to 38% in towns along the major and busy roads. The study showed a mean sero-prevalence of 17% (5).

On repeated surveys, the average rate of HIV infection among commercial sex workers has increased to 19.5% and 29.2% in 1988 and 1989, respectively (6). The magnitude of the problem has dramatically increased among commercial sex workers in red light houses in Addis Ababa (7). Further investigation outside Addis Ababa city in 1990 and 1991 showed 54% and 60% HIV seroprevalence in Nazareth and 55% and 69% in Baher Oar town, respectively (8). The rate is estimated to grow by 60-100% annually. Besides, according to a survey made in 1988, 13% of the long distance truck drivers and 4.1% of their assistants were HIV carriers. In 1989, the HIV seroprevalence has increased to 17% among the drivers, and to 7% among the assistants (8, 9). In another category, in 1992, 32.2% and 42.7% of STD patients attending two clinics in Addis Ababa were HIV positive (8).

Similarly, the incidence of HIV infection continued to rise dramatically in the general population. In 1985, the rate of HIV infection was 0.6% among the general population (blood donors), rising to 3.6%,5.2%, 6.5%, 7.4%, 8.3% and 9.1% in 1989, 1990, 1991, 1992, 1993 and 1994, respectively (8, 10). HIV infection among scholarship students was reported to be 3.2% and 3.8% in 1987 and 1988, respectively (10). This figure was
reported to be 3.5% and 5.3% among work permit and scholarship applicants in 1993 and 1994, respectively (8). In 1991, ELISA and Western Blot examination of 5512 sera collected from military recruits showed an HIV sero-prevalence rate of2.6% (11).

Among urban antenatal clinic attenders, 2.8% and 6.9% HIV seropositivity were reported at two sites in 1991, increasing to 10.7% and 13% at four sites in 1992 and to 20.2% in 1993 (8). SerosurVeys in Ethiopian rural areas in 1993 showed a spread of HIV

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infection into the rural parts of the country . The prevalence varied between 0 and 6.6% among the general population in six rural sites (8). Besides, farmers accounted for 2.03% of the total number of AIDS patients reported up to November 30, 1994 (12). There was a conservative estimate that about 316,621 people in Ethiopia had been already infected with HIV by mid 1991 (13). This figure was estimated to dramatically increase to 506,594 and 1.5 million by the end of 1992 and 1994, respectively (8, 13). If the incidence of HIV infection continues to increase at this rate, it is estimated that there could be as many as 95,000 AIDS orphans in Ethiopia by the year 1996 (14).

A marked increase in the number of AIDS cases from year to year has also been reported by the Department of Epidemiology and AIDS Control. According to the latest report of the Ministry of Health, total of 18,049 cumulative AIDS cases were reported by the end of April 1995 (15).

The recent report of the National AIDS Control Program of the Ministry of Health indicates that of all reported AIDS cases, 44.1% were singles and 36.4% married individuals (15). Besides, 1.9% of the reported cases were children below the age of 15 years, and the highest frequency (43.5%) was in the age group of 20-29 years. Furthermore, the report reveals that more than 90% of the AIDS cases are due to heterosexual transmission, and that 47% of the infected individuals had history of sexually transmitted diseases. The majority of the AIDS patients (51.4%) were from Addis Ababa. In addition, 11.2% were from the Armed Forces, 13.5%, government employees, 6.8% drivers, 5.2% sex workers and 4.3% students. The average age of patients was 27 years for females, 32.5 years for males, and 30 years for both sexes. This probably shows that females start sexual intercourse relatively earlier than males.

The risk factors for the AIDS cases show that 87.2% of the patients had history of multi- partner sexual contacts. History of blood transfusion was reported in 0.8% and history of mother-to-infant transmission of HIV (including breast feeding) in 1.5% .In addition history of illegal injection was reported in 0.9% and intra-venous drug abuse in 0.04% (15).

Clinical features of Aids Patients

The major clinical manifestations reported by the Ministry of Health in 18,049 Ethiopian AIDS patients is presented in the following table:

Signs and symptoms	Percentage
Weight loss of more than 10% of body weight	87.5
Prolonged fever for more than a month	84.3
Chronic diarrhoea for more than a month	59.2
Persisetent cough for more than one month	68.1

generalized lyphadenopathy	23.4
Tuberculosis	14.1
Oropharyngeal candidiasis	20.3
Recurrent herpes zoster	13.6
Generalized pruntic dermatitis	17.3
Pneumonia	4.1
Skin rashes	1.3
CNS derangement	1.2
Night sweats and generalized body weakeness	1.2
Loss of apapetite	0.2
Kaposi's sarcoma	0.3

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Moreover, many studies documented diverse clinical pictures among Ethiopian AIDS patients. In a hospital-based case control study in 1993, the authors stated that perianal fistula is a possible minor sign of AIDS and showed that patients with multiple and recurrent anal fistula are highly associated with HIV seropositivity (16) .

Pneumocystis carini pneumonia in adults and gastroenteritis and marasmus in children were also reported to be the admitting diagnosis of hospitalized AIDS patients (17, 18). In other hospitalbased studies, ocular manifestations were reported in 32% of AIDS patients, and an increase in HIV -associated herpes zoster ophthalrnicus and uveitis was also reported (19, 20).

Another study repo,rted that HIV associated with pleural tuberculosis commonly occurs with other forms of extra pulmonary tuberculosis and responds well to treatment. Hepatitis was documented to be the frequent side-effect to treat.-nent and emai:cd poor prognosis (21). On the other hand, according to the 1988/89 report of Hailu Kefenie et al, the association of TB with HIV infection in their study population did not appear evident. This conclusion was based on laboratory examination of 106 sera collected from TB patients (22).

According to a study made in Addis Ababa Army Hospital to evaluate the WHO clinical case definition for adult AIDS among Ethiopian patients, the sensitivity, specificity and positive predictive value of the case definition were 80.8%, 59.9% and 40.6%, respectively. It has also been reported that weight loss, lymphadenopathy and herpes zoster were best predictors of AIDS diagnosis in ranking order (23).

Further review of clinical studies and observations, reveals that 11 months was the average survival of Ethiopian AIDS patients fonD the onset of symptoms to death (24). It has also been reported that patients with AIDS associated lymphoid neoplasia survive for shorter periods compared to those lymphoid neoplasia cases without AIDS (25).

Factors contributing to the progression of HIV infection in Ethiopia.

There are different factors which directly or indirectly affect the risk and magnitude of the HIV / AIDS problem in a given society. Studies have outlined broad ranges of biological, behavioural and societal factors that play an important role in the dissemination of HIV infection (26). Various individual, environmental, economical, and socio-cultural factors prevail which may contribute positively to the transmission of HIV / AIDS in Ethiopia.

Individual awareness, behaviour and practices. The majority of the high-risk groups for HIV infection in Ethiopia the young populations who have recently become sexually active (5, 7, 13, 27). This is a difficult audience to influence because of peer pressure as well as the sense of invulnerability that accompanies youth. Some studies on HIV risk behaviours showed that, despite knowledge about HIV / AIDS risk, high percentage of people, especially youth, continued to experiment with high-risk behaviours (28).

In a study conducted in a rural high school in Northern Ethiopia, the majority of die high school students had their first sexual intercours before reaching the age of 16d'ears and most had never used condom during intercourse (19) .In a survey made among farmers in rural Ethiopia, despite the knowledge about AIDS, extramarital sexual contact was reported by 13.5% of them and of these, 7% (1% of the total), had sexual contact with commercial sex workers. The rate was reported to be much higher (45%-50%) among soldiers, merchants and students residing in rural settings (30).

In another study, in Nazareth, it has been reported that 23% of the men and 34% of the women, (most of the women were prostitutes), had more than one sexual partner in their sexual life, and 28% of the men had visited prostitutes. In this report women were more likely to have ever used condom than men. However, men who had visited prostitutes were more likely to use condoms (31). But, in a 1 m study, condoms have been shown to be used extremely rarely by females practising multiple partner sexual contact with casual individual or prostitute (32).

Prevention programs on AIDS spend much of their time on increasing awareness about modes of HIV transmission and information on how to avoid becoming infected. As observed studies mentioned above, experience over the past many years has shown that information alone is insufficient to change behaviour (28). In addition to preventive information, conflicts between the sexual partners and instability of marriages could also be an important factor in determining safe sex. Therefore, in addition to the provision of health education alone the underlying causes of risky sexual practices in a given community have to be studied and dealt with accordingly.

Furthermore, in order to be effective, preventive interventions on HIV / AIDS have to consider the content of information and the context in which the preventive messages are received. The context may be determined by age, locality , literacy level, social customs, local religious beliefs, economic level, occupation, mobility and peer influences.

Alcoholism. The number of resort areas and urban social infrastructures are limited in Ethiopia. The available social services are relatively expensive for most of the people. The vast majority of the population are forced
to spend' their time in local bars and hotels After work, during weekends and holidays for entertainment .

There are no available data about the rate of a1cohol consumption and the average individual expenditures for alcohol in Ethiopia. Nevertheless, from experiences and observations it is assumed that some of the population could be moderate consumers of alcohol and quite a few number of individuals may be addicts. Alcohol has been found to be one of the risk factors for HIV infection (37). Some studies have indicated that the rate of HIV replication could be higher among alcohol consumers compared to the' rest of the population (37).

Other sexually transmitted diseases. The number of reported cases of Sexually Transmitted Diseases (STDs) is rising in Ethiopia (13). This increase is an indication of sexual promiscuity which could also parallel the increasing incidence of HIV / AIDS . The relationship between HIV and other STDs appears to be synergistic. Persons who have histories of STD are at increased risk of acquiring HIV , while HIV infected persons are likely to have greater susceptibility to infection with other" STDs and, if co-infected, may experience an unusually severe and protracted course (34).

The few studies conducted in Ethiopia in this area support the role of STDs as a biological cofactor of HIV. It has been reported that STD patients with current as well as past histories of infection with more than one type of STD have significantly higher sero-positivity rate for HIV than those with present or past single infection. Moreover, in the same study, it was reported that HIV -1 antibody positivity rate in patients with genital ulcer diseases was significantly higher than the rate seen in patients with non-ulcerative STDs (35).

The problem of media coverage on health. The importance of mass media as one of the essential tools for health promotion activities on AIDS has been well described (36) .The availability of media in general and radio, television and newspaper in particular is not only essential for AIDS prevention but also necessary for social change and development. Radio and health professionals have been reported to be the main sources of information on HIV / AIDS in one rural high school in northern Ethiopia (29). However, even though AIDS is pandemic in a number of poor counties, many people in these countries are still ignorant about AIDS (32, 37, 38).

Even among relatively better educated people, many are naive about HIV/AIDS. For instance, it was reported that about 37% of college students did not know the most acceptable preventive measures of HIV / AIDS (32).

The major factor affecting the dissemination of AIDS information in Ethiopia is the severe limitation of mass media communication channels. The existing media are government owned with few channels and limited air time for health. Media coverage on health is less than 1% of the programming. The contributing factors for the low coverage of health in the media is mainly due to lack of resources but also poor communication and training in journalism, and lack of audience research (39).

War in Ethiopia. War favours the spread of AIDS through movements of soldiers who rely on prostitutres to satisfy their sexual needs (40). In Ethiopia the last war which had been fought for nearly three decades has produced a number of problems, among which increase in the prevalence of HIV / AIDS is one. The problems of the displaced people from the war affected areas are still unresolved. To fulfil some of the basic necessities for survival some of the displaced females are forced to indulge in multiple sexual contacts. This is mainly for economic security and support where preventive measures against HIV / AIDS are given less priority.

Housing. Housing is a major problem in Ethiopia. In Addis Ababa, the capital city , there are a total of 259,555 residential houses. The total residential houses in urban areas through-out Ethiopia are only 888,812 (41). The shortage of housing has posed at remendous problem on the younger generation. Many young men and women are forced to stay with their families and relatives even

after completing schools and getting employed. Because of this limitation many young people are discouraged to get married on time. It has become common to see in many urban areas of Ethiopia, where the problem of housing is enormous, that most men and women get married at late ages.

Premarital sexual contacts. There is very little information on the situation of pre-marital sexual relationships and experiences of safe sexual practices particularly by the young generation in Ethiopia. A study conducted at Gondar College of Medical Sciences on medical , nursing and sanitarian students showed that 49.5% of the males and 18.3% of the females had pre-marital sexual intercourse, but 75.8% of these students did not use condom, and 47% had contact with a casual individual or prostitute (32). Thus, it could
not be denied that some of the younger generation are already exposed to HIV infection before marriage. Because of the absence of pre-marital HIV screening in Ethiopia many couples may be infected with the virus unknowingly. According to the recent report of the Ministry of Health, of the total reported AIDS cases, 35.9% were among the married couples (12).

Studies in other developing countries showed that young women are much more likely to be infected by HIV than young men. Their sexual partners are often older men who may already have HIV infection. Women are
biologically more vulnerable to infection and often have less power to refuse sex or insist condom use (26, 42, 43). Although not much is studied in this area, the situation in Ethiopia is perhaps not different.

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Rural development and sexual promiscuity The Ethiopian economy is based on agricultural practices. The majority, i.e. 85%, of the population live in rural settings. In order to alleviate the economic and health sufferings of the population and combat poverty, rural development is taking place throughout the country These developmental activities involve the mobility of a number of professionals from place to place.

Mobile populations are usually exposed to HIV infection since quite a number of them may not practice safe sex. Governmental and non-governmental field workers including truck drivers are mobile and stay outside their homes mostly in hotels where food, and drinks are provided. In most parts of Ethiopia commercial sex workers provide sex for travellers and businessmen in hotels, night clubs, discos and streets.

Among the relatively mobile groups of the society the rate of development of AIDS was shown to be high. For instance, the rates among government employees, Armed Forces, truck drivers and are merchants 13.5%,
11.2%,6.7% and 8.4% respectively (15, 44). Thus, HIV has extended into many families perhaps through this kind of transmission. Today, around 36.4% of all AIDS cases are married (15). HIV is currently expected to be in about 10% of the general population (13).

Ethiopia as a diplomatic centre. Many aid organizations come to Ethiopia for relief and development programs. Most of these organizations are centred in Addis Ababa and have extended their project activities in rural Ethiopia. Some of the relief agencies come to Ethiopia for short periods, although the majority have long term agreements with the Government. Because of these activities, and tourism and international conferences as well, a number of expatriates from different parts of the world visit the country .There is no previous information on the impact of foreign travellers in raising the magnitude of the AIDS epidemic in Ethiopia. However, from personal observations many street girls during the evenings, particularly in Addis, have been shown to be associated with many foreigners to serve as commercial sex workers. Therefore, HIV transmission to either side could not be ruled out. The role of transmigration and immigration in the spread of HIV infections have been discussed in few literatures (45, 46).

Poverty in Ethiopia. Economic factors contributing to the risk of exposure to HIV / AIDS among young people are complex and may include urbanization, unemployment, lack of education and overall poverty (42). Ethiopia is still one of the poorest nations in the world. There is a high rate of unemployment throughout the country (47). The annual growth of labour was 2.3%, 2% and 1.9% in 1960-70, 1971-80, 1981-90, respectively (48). Additional information reveals that 46% of the population are under the age of 14 and primary school enrolment ratio is 32% (49). Such a low economic standard may contribute to the dissemination of HIV by raising the number of prostitutes (40, 38).

The number of street children is increasing from time to time. In Addis Ababa alone, street children are estimated to be more than 10,000 and the number is growing every year. Previous studies in other countries have indicated that street children could be considered to be one of the highest risk groups for HIV infection. According to a recent study in Kenya, 15% of the street children were positive for HIV infection (50).

Socio-cultural Factors; Sexuality. Issues related to sex are not openly discussed in the Ethiopian society. In most cultures, talking about sex is considered as a taboo. Children and adolescents are restricted to talk about sex in front of their parents. This also holds true to some extent among the general population. Sexual negotiation is perhaps unheard of. It is an acceptable norm that the man decides the time and frequencies of sex. Females are obliged to accept whatever is suggested by their male partners 42).

There is a high possibility that extra-marital sex is initiated by men in the Ethiopian society. One of the ways that masculinity is expressed is by the number of sexual contacts a man has made. According to the report of
the Ministry of Health, sex ratio for AIDS cases is 1.5 male for I female (8). The major reasons for the higher rate of infection among males could be due to unrestricted sexual practice and low use of condom (9, 52, 53).

Early marriage particularly among females is common in the Ethiopia. No comprehensive research into Ethiopian cultural values on sexual expression has been made. According to some reports (51) early marriage has been found to be one of the risk factors for high rates of divorce rural community, which contributes to the in the number of prostitutes.

Condom use. Some commercial sex workers in Addis Ababa have reported that the issue of condom use during sexual intercourses has usually not been up to them, but the choice is often made by their clients (54). In some instances men would get angry if they are requested to use condom mainly because they feel they are insulted and being suspected of having HIV infection.

The lack of self confidence and significant alcohol consumption are also probably some of the other factors contributing to low condom use by males. Condom use and not well accepted in the Ethiopian society. Some people think condom decreases their sexual gratification (53).

Condom has become known to many people in Ethiopia recently because of the family planning program. Even among those practising family/planning programs the rate of condom utilization is far below the expected range (55, 56). Condom distribution and utilization has been growing since 1990 (57). Condom distribution has been concentrated in towns, but recently its marketing has begun in semi-urban and rural areas. It has been reported that the annual number of condoms distributed has increased from 600 ,000 in 1990 to an estimated 17 million in 1994, with over 8,000 outlets and over 30 million condoms sold throughout the country (8).

AIDS prevention activities in Ethiopia

In Ethiopia the National Task Force for AIDS was established in 1985. Immediately after the establishment of the National Task Force, cases started to be reported in growing numbers. An office responsible for the coordination of AIDS intervention activities was established in 1987 under the Ministry of Health. When the National AIDS Control Program was opened for the first time, its primary objective was to prevent the progression of HIV infection and reduce the mortality and morbidity in the general public as much as possible (56).

Dissemination of AIDS information was the major strategy identified to create awareness in the general public. To implement this, an operational division responsible for information and education within the Department of AIDS Control Program was established (56). A surveillance system on AIDS cases in Ethiopia was introduced in 1989 by the Department of AIDS Control Program, MOH. Since then, a marked improvement was shown on the quality of data generated from regions (58).

Fighting AIDS together (FAT): phase I. When the number of AIDS cases gradually increased, the prevention aspect was not left to the National AIDS Control Program alone. Coordinated efforts between governmental and non-governmental organizations (NGO's)were initiated to create a new strategy for promoting health at the community level. In this respect, in September 1m, the Ministry of Health had initiated a campaign against AIDS throughout the country through a special program called "Fighting AIDS Together" (FAT) (59). This was done by mobilizing human resources, and working together with different organizations in an intensive, systematic effort to bring AIDS information to the general public. An encouraging result had been achieved during the course of the campaign. During the "Fighting AIDS Together" campaign, the new strategy for

dissemination of AIDS information in Ethiopia had focused on training of trainers and counsellors at the grass root level by encouraging community participation and involvement. Thus, training was given to a number of AIDS communicators chosen by different organizations (i.e. communities and governmental organizations). Besides, media people were selected from different areas and- the necessary training was also given to involve them in the preparation of health learning materials and different programs on AIDS.

During the campaign the participation of NGOs was tremendous. A national workshop was organized by the Christian Relief and Development Agency (CRDA) to member churches and agencies where about 94 health
workers were trained to participate in the FAT campaign. Similarly. another seminar was organized for high ranking military officials and health personnel within the army and the necessary action plans were prepared to disseminate AIDS information and education to the military personnel by then.

The Ministry of Education was also approached to be involved the "FAT" campaign. Some basic information on AIDS were prepared in the form of a booklet in the Amharic language and initially about 3,000 copies were published and distributed to different elementary and high schools throughout the country .This booklet was primarily designed for school teachers to serve as a guideline.

Fighting AIDS Together (FAT) phase II. Fighting AIDS Together (FAT), phase 2, was launched between March and July 1992. During the campaign a total of 1413 AIDS communicators were trained in addition to the previous 1000 trained in 1990. A total of 1.6 million printed materials were distributed to the public. In addition about two million people had been reached through group health education program and interpersonal communications. Altogether about 250 AIDS clubs were formed. Besides, 614 teachers were trained for AIDS education in some schools (60).

AIDS education was also disseminated through football clubs and church organizations. For example, the Addis Ababa St. George football club volunteered to wear ragging suits which read on the back "Stop AIDS" am Hiwot (condom brand in Ethiopia). Besides, the Ethiopian Bible Society published leaflets entitled " AIDS: The incurable Disease" for distribution to the public. The Organization for Social Service on AIDS (OSSA), a non-governmental organization, was established in 1990 initially by eight CRDA members. The major objective of the organization is to give service to those suffering from AIDS and its indirect victims such as orphans. So far about 250 AIDS counsellors have been trained and OSSA has 20 members (61).

Religious institutions in Ethiopia have contributed to some extent to disseminate AIDS information to the public. The Ethiopian Orthodox Patriarich has instructed the bishops and priests to include AIDS education during preaching and Sunday schools. Besides, the Islamic Supreme council has been recommending marriage to their followers and also made efforts to rehabilitate commercial sex workers belonging to their religious category .

The Society for women and AIDS in Ethiopia (SW AE) was formed in 1989 by a group of interested women in Addis Ababa. Its primary objective was to rehabilitate commercial sex workers. To implement the program, sensitization of commercial sex workers was done through

peer group education. The program has also been extended into Some schools to educate students about harmful traditional practices in connection to HIV infection (62).

The Ethiopian Red Cross Society opened blood screening centres in eight regions in the country .In addition to tests done at the National AIDS Referral Laboratory (at the former Nationa Research Institute of Health
NRIH), blood screening is done at the time of blood collection.

Condom promotion was the other aspect of the FAT campaign. Population Services International (PSI), in collaboration with the Ministry of Health, had encouraged and distributed a large number of condoms at a reduced price throughout the country . Condoms are now available in most urban centers/towns in Ethiopia particularly in bars, shops, barbershops and pharmacies. Earlier, it was reported that one of the reasons for low condom use in the country was its scarcity , and the cost was not also affordable by many customers (54).

In general, from the Ethiopian experience the approach based on training of trainers (communicators) was shown to be successful for dissemination of AIDS information (63). The approach could have contributed to some extent in increasing the level of knowledge about HIV / AIDS in the community .However , its impact in bringing changes in their attitudes and behaviours has not been measured. In a country like Ethiopia where there is shortage of mass communication media, this is probably the best approach to augment the existing health education program for minimizing of the further spread of HIV infection in the country . Conclusion and recommendations A worldwide consensus has been reached that until a vaccine or cure for AIDS is available, the only reliable and effective strategy to minimize the further spread of the disease is through public education. The objective of promoting health education programs for the general public is to create awareness and eventually bring attitudinal and behavioural change so that individuals will limit the number of their sexual partners and avoid unsafe sexual practices.

The AIDS Prevention Program in Ethiopia perhaps focused on getting started quickly and often neglecting to set measurable objectives or to plan evaluation. In the past, because of war and poverty , inadequate attention has been given to AIDS. Health education resulted in little impact on behavioural and attitudinal change in health. Because of war and poverty there is a high mobility of population through out the country .Many families have been disintegrated and as a result the divorce rate had increased. There is a high rate of unemployment. Prostitution has flourished in major towns and cities. Military troops are vulnerable to HIV infection and they are potentially capable of transmitting the virus from place to place. Now, HIV is no more
exclusively confined to the urban areas as it used to be, but is spreading to all parts of the country .Serious efforts to control the spread of HIV in Ethiopia must also attempt to deal with these broader issues.

A limited air time is given for AIDS education in Ethiopia. Spots and captions should be shown every day after bering properly examined and pretested before presentation. A health journalist at BSc level in sociology or related subjects has to be recruited by the Ministry of Health to work closely with the Ministry of Culture and Information on AIDS and associated topics. AIDS education should be disseminated through printed media (newspapers, magazines) for the public and targeted audiences on a regular basis.

Posters should be placed in some areas where prostitution has flourished. Educational messages on HIV / AIDS should be provided by famous artists and prominent individuals. Services for voluntary testing and blood screening before marriage have to be available at an acceptable cost. In addition, youth education on HIV / AIDS should be promoted in and outside schools. Persuasion of the high risk population towards minimizing non-regular sexual partnership and promotion of condom use in non-regular sexual contacts should be encouraged. Religious organizations have not been properly utilized. They are an ideal influence group AIDS education materials could be distributed to the followers in churches and mosques. Besides, because of the limited government resources to carry out the prevention and control activities of HIV / AIDS
through out the country, NGOs have to participate widely in the promotion of AIDS awareness among the population in general and the rural population in particular .

Behavioural, social and economic research regarding HIV / AIDS has to be promoted. In the past, some KAP studies were made on HIV/AIDS in Ethiopia (32). Nevertheless, no cornpreh: Jive studies have been made on the impact of Information, Education and Communication (IEC) activities on behavioural and attitudinal changes in the community. Programme evaluation on AIDS intervention strategies in some African countries show promising results. In Benin, photographs and personal testimonials by the AIDS patients were shown to make a deep impression about the reality of AIDS (64). In Uganda sero- positive women were shown to playa valuable role in AIDS education through drama (65). In Zimbabwe, Volunteers were trained for AIDS information and education for some target groups. Intervention activities on IEC included flip charts, condom promotion, music and radio programmes (66).

The Department of Epidemiology and AIDS regularly evaluates the ongoing AIDS intervention activities in the country on annual basis in accordance with the second medium term plan 199296. Priority of interventions were identified to focus on social mobilization, training and intensify the IEC programmes.
To this effect, a workshop was organized by the Department in 1993, to identify future areas of research. A national workshop is recommended in Ethiopia, to evaluate the ongoing AIDS prevention activities and forward possible control strategies.

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