Baseline for the evaluation of an AIDS programme using prevention indicators: a case study in Ethiopia

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Strategies for preventing transmission of human immunodeficiency virus (HIV) include ensuring that individuals have adequate knowledge of how HIV infection can be prevented and encouraging behaviours that decrease risk of HIV infection. In addition, there is evidence that early and appropriate management of other sexually transmitted disease is effective in reducing HIV transmission. Programmes and projects promoting prevention of HIV transmission should be evaluated periodically for their effectiveness. Between March and September 1995, ten prevention indicators developed by the WHO Global Programme on AIDS were used to establish a baseline measure for evaluating the effectiveness of the Ethiopian AIDS control programme. The indicators were measured using a structured population survey, through record review and key informants, structured observation and interview in health care facilities, and through a serosurvey among antenatal clinic attenders. The following results were found: promoting knowledge of preventive practices was successful; a relatively high proportion of young male adults had sexual risk behaviour; poor condom availability outside Addis Ababa, the capital; and very weak STD case management. The prevalence of syphilis and HIV were 8.8% and 13.6%, respectively, among pregnant women aged 15–49 years. These results should serve as a baseline for repeat surveys to assess the effectiveness of HIV prevention programmes in Ethiopia.

Introduction

The Ethiopian AIDS Control Programme has been fully operational within the Ministry of Health since 1987 (*1*). Intervention efforts have been undertaken by the programme, other ministries, and nongovernmental organizations in terms of information, education and communication (IEC), promotion of condom use and other safer sexual behaviours, control of sexually transmitted diseases (STDs), patient care, and expansion of testing activities for human immunodeficiency virus (HIV) for blood safety and public health surveillance (*1–3*). Information collected in 1989 and 1991 through small surveys and focus group discussions revealed that IEC had had some impact on public awareness (*2, 3*).

Three programme reviews were undertaken (in 1989, 1991 and 1992). The findings of the first review highlighted that the programme was highly centralized; epidemiological and behavioural information was limited to a few studies of selected populations in various cities; and education campaigns through the mass media were sporadic (*4*). Subsequent reviews revealed that the technical and material support for the management of cases of acquired immunodeficiency syndrome (AIDS) in hospitals was unsatisfactory; and that commitments made, as well as resources allocated, to the national programme were still inadequate and covered only the short term. Finally, the need for an integrated STD and AIDS control programme was underlined (*5, 6*). The reviews also highlighted major achievements: a strong central team, production of several types of IEC messages on AIDS/STD, increasing intersectoral collaboration; expansion of new STD clinics, and training of hundreds of health workers in HIV/AIDS and of AIDS communicators (*4–6*).

By July 1994, the number of AIDS cases reported in Ethiopia had reached 13 000 (*7*). Data from sentinel surveillance indicated that the prevalence of HIV infection among blood donors and antenatal clinic attenders in major urban areas in 1992 was 7.4% and 11.1%, respectively, while among sex workers it exceeded 50% (*2*). Surveys conducted in six rural villages in 1993 also revealed the presence

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of HIV infection in five of them, although the prevalence was still low (<1%) (*3*). The number of HIV infections in the country at the end of 1992 was estimated to be 400000 adults (*2*), and by the end of 1994 adult HIV prevalence was estimated at 588000 (*8*). In 1993, the steady increase in HIV prevalence and in AIDS cases led senior government officials and health professionals to question whether the interventions undertaken up to that point had been successful in slowing the spread of HIV. Among the questions posed were the following: Why should the prevalence of HIV infection continue increasing if the interventions are effective? Is awareness about AIDS enough to check the spread of HIV? Are condoms being used?

A comprehensive baseline for evaluation was therefore established, using the WHO/Global Programme on AIDS (GPA) methods package for evaluation of national AIDS control programmes.[a] Plans were also made for repeated assessments that would allow comparisons over time of the progress in overall prevention activities. This article describes the results of the baseline evaluation study undertaken by the Ministry of Health in collaboration with WHO/GPA.

Methods

A core set of 10 indicators of progress and outcomes of HIV prevention activities has been developed by WHO/GPA (*9*).[a] Briefly, five prevention indicators (PIs) are measured using a population survey: reported knowledge of preventive practices (PI 1); condom availability at the local level (PI 3); reported frequency of nonregular sexual partners (PI 4); reported condom use during sexual encounters with nonregular sexual partners (PI 5); and reported STD symptoms among men (PI 9). Condom availability at the central level (PI 2) is assessed through a record review and key-informant interviews with major distributors. Structured observations during a health facility survey permit an assessment of the appropriateness of STD case management (PI 6 and PI 7). Finally, a serosurvey of antenatal clinic attenders aged 15–24 years permits the measurement of HIV and syphilis seroprevalence in this group (PI 8 and PI 10) (*9*).[a] Details of the indicators are shown in Table 1.

[a] **World Health Organization.** *Evaluation of a national AIDS programme: a methods package. 1. Prevention of HIV infection.* Unpublished document WHO/GPA/TCO/SEF/94.1, 1994 (available upon request from Joint United Nations Programme on HIV/AIDS, 1211 Geneva 27, Switzerland).

Preparations for the surveys were made between March and July 1993 and the surveys themselves were conducted in August and September 1993 in four major cities whose populations were over 50000: Addis Ababa (capital), Bahir Dar (570km north-west of Addis Ababa), Awassa (275km south of Addis Ababa) and Dire Dawa (500km east of Addis Ababa). The survey protocols were adapted to the Ethiopian context as described below.

General population survey

Each city was taken as a distinct domain. The list of *kebeles* (clusters) and households in each city was obtained from the urban dwellers associations (the smallest administrative and functional unit in a city). At the first stage in each city, *kebeles* were selected with probability proportional to size. At the second stage, households were selected with probability inversely proportional to that used in the first stage. Assuming an average of 2.4 eligible respondents per household, and allowing 5% for nonresponse, we selected a total of 672 households from 27 clusters in a domain (*9*); and the sample in each domain therefore consisted of approximately 1600 men and women aged 15–49 years. Each site was assigned a survey team consisting of a coordinator, 3–4 field supervisors and 12–16 interviewers who listed the household members, interviewed eligible respondents, and assessed call-backs and nonresponse. Information was collected on background characteristics, knowledge of preventive practices, reported nonregular sexual relationships, condom use in the most recent sexual intercourse with a nonregular partner, and reported STDs in men.

Condom availability at central and peripheral levels

Trends over time in the availability of condoms (PI 2 and PI 3) highlight areas of weakness and strength at the centre and at the periphery of the distribution system and permit programme resources to be directed appropriately to problem areas (*9*). Condom availability at the central level was assessed through a record review and key informant interviews with major distributors,[a] firstly to gather information on condom logistics and availability over the 12 months preceding the survey; and secondly to estimate the number of condoms supplied to the national AIDS control programme, family planning programme, and Population Services International.

Data on condom availability at the peripheral level (PI 3) were collected during the population survey by identifying major outlets (shops, pharma-

Table 1: **List of prevention indicators (PIs) used in the study**[a]

Prevention indicators (PIs)	Numerator/denominator
PI 1: Knowledge of preventive practices	Number of people citing at least two acceptable ways of protection from HIV infection/Total number of people aged 15–49 years surveyed
PI 2: Condom availability (central level)	Total number of condoms available for distribution during the preceding 12 months/Population aged 15–49 years
PI 3: Condom availability (peripheral level)	Number of people who can acquire a condom/Population aged 15–49 years
PI 4: Reported nonregular sexual partners	Number of people aged 15–49 years who reported having had at least one sex partner other than a regular sex partner(s) in the last 12 months/Total number of people aged 15–49 years who reported having been sexually active in the last 12 months
PI 5: Reported condom use with nonregular partner	Number of people aged 15–49 years reporting the use of a condom during the most recent act of sexual intercourse with a nonregular sex partner/Total number of people aged 15–49 years reporting sexual intercourse with a nonregular sex partner in the last 12 months
PI 6: STD case management	Number of people presenting with STD in health facilities assessed and treated in an appropriate way (according to national standards)/Number of people presenting with STD in health facilities
PI 7: STD case management	Number of people presenting with STD or for STD care in health facilities who received basic advice on condoms and on partner notification/Number of people presenting with STD or for STD care in health facilities
PI 8: STD prevalence, women[b]	Number of pregnant women aged 15–24 years with positive serology for syphilis/Total number of pregnant women aged 15–24 years attending antenatal clinics whose blood has been screened
PI 9: STD incidence, men	Number of reported episodes of urethritis in men aged 15–49 years in the last 12 months/Number of men aged 15–49 years surveyed
PI 10: HIV prevalence, women	Number of HIV-seropositive pregnant women aged 15–24 years/Total number of pregnant women aged 15–24 years attending antenatal clinics whose blood has been screened

[a] See ref. *8* and footnote *a*, p. 510.
[b] Under development.

cies, bars, health facilities, etc.). Each cluster was categorized as having condoms available if any one of the outlets visited had condoms physically present and had had an uninterrupted supply of them over the previous 12 months.[b]

STD case management

Prevention indicators (PI 6 and PI 7) were developed to measure the appropriateness of case management for STDs (*9*). The following syndromes were selected for evaluation: urethral discharge in men, and genital ulcers in men and women. Appropriate STD assessment and treatment (PI 6) is defined in terms of the health care providers' adherence to certain standards in history taking, examination, and treatment. Clinicians may diagnose and treat STDs on a clinical, etiological (with laboratory confirmation of the diagnosis), or syndromic (presumptive) basis (*9*). WHO recommends that all patients receive a syndromic treatment unless a positive etiological diagnosis is made, since this approach ensures that the patient is treated for most pathologies that make up a syndrome (*10*). PI 7 refers to whether basic advice is provided on condom use and on partner notification for treatment.[b]

All public health facilities in the four selected cities where at least five STD patients had been treated the previous week were selected for observation. All health care providers (HCPs) in each clinic (doctors or nurses) that routinely treated STD patients were observed using the standard WHO form[b] prepared for this purpose. Interviews with the HCPs were then made on their usual practice with patients as regards recording of history, onset and duration of present illness, history of sexual contact with others, types of diagnosis made, treatment schedules prescribed, advice on condoms, and partner notification. The private clinics that were approached by the survey team declined to take part in the survey.

HIV/syphilis serosurvey

In August and September 1993, a cross-sectional unlinked anonymous survey of HIV and syphilis

[b] See footnote *a*, p. 510.

seroprevalence was carried out in Addis Ababa in 16 randomly selected clinics. The sample consisted of 2400 antenatal clinic attenders aged 15–24 years who were on their initial visit and whose sera were collected for syphilis screening using a rapid plasma reagin (RPR) test. Women with a positive RPR serology were notified and treated appropriately. Within the study period four of the major hospital clinics collected 240 samples each; and the rest, 120 samples each. The variables included age, parity and site of recruitment. Screening for HIV was carried out using two consecutive enzyme-linked immunosorbent assays (ELISAs) (Serodia, Fujirebio, Tokyo, Japan; followed by Vironostica, Organon Teknika, Boxtel, Netherlands).

Results

General population survey

The general population survey included 6885 respondents from four major cities. The individual response rate varied from 21% in Addis Ababa to 12% in Awassa. The main reason for nonresponse was unavailability of eligible respondents even after two call-backs. Among the respondents, 4173 (60.2%) were women and 3381 (49.1%) were aged 15–24 years. There were no statistical differences in the age group distribution between the four sites. A total of 39% of women and 38% of men were currently married. Overall, 65% of female and 69.6% of male respondents stated that they had been sexually active over the previous 12 months. The median age at first sexual intercourse in the urban population was 17–18 years. In addition, 57% of women and 49.4% of men were living without a spouse or regular partner.

Fig. 1 shows the summary results for PI 1, PI 4, PI 5, and PI 9. Knowledge of preventive practices for HIV/STDs was lower among women (83.8%) than men (94.1%) (PI 1, Fig. 1) and very similar at the four study sites. There was no significant age difference in PI 1 overall. Some 58% of men and 63% of women endorsed inappropriate HIV prevention practices; and 2% of men but 8% of women had never heard of AIDS.

Among those who had been sexually active in the previous 12 months, the overall prevalence of nonregular sexual relationships (PI 4) was 10.5% (18.2% among men and 5.2% among women) (Fig. 1) with wide variations according to city, ranging from 9.7% in Awassa to 17.2% in Addis Ababa. The proportion who reported sexual intercourse with a nonregular partner peaked at 20–24 years for both sexes (Table 2). The mean number of nonregular partners in the previous 12 months reported by men and women was, respectively, 0.4 and 0.3. Overall, three times as many men reported nonregular relationships (12.8%) than women (4.4%), suggesting high levels of commercial sex. Sex with a nonregular partner was highest among previously married men and women (36% and 11%, resp.), followed by that among those never married (17% and 3%, resp.) and by that among those married (5% and 1%, resp.).

Fig. 1. **Distribution of selected HIV/AIDS prevention indicators in the study population, by sex.**

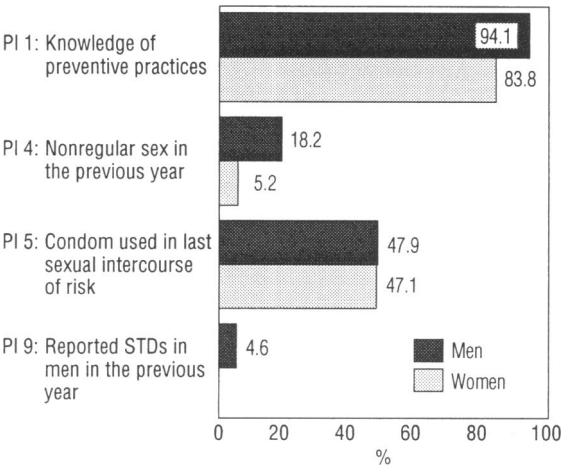


Table 2: **Percent distribution of males and females according to their reported number of nonregular sexual partners in the previous 12 months**[a]

Current age (years)	Sex	% who had had the following number of sexual partners: Zero	1	2–4	5	Total (%)
15–19	M	92.6	4.4	2.6	0.4	100
	F	97.3	1.3	0.6	0.7	100
20–24	M	77.3	8.2	10.3	4.2	100
	F	93.8	2.3	1.8	2.1	100
25–29	M	81.8	5.8	11.2	1.3	100
	F	95.0	1.2	1.3	2.5	100
30–34	M	83.8	6.3	8.1	1.8	100
	F	96.4	1.5	1.3	0.8	100
35–39	M	88.3	5.4	5.4	0.9	100
	F	99.0	0.6	0.4	0.0	100
40–49	M	93.3	4.1	2.2	0.4	100
	F	99.1	0.2	0.4	0.2	100
All	M	87.2	5.5	5.9	1.4	100
	F	96.6	1.3	1.0	1.1	100

[a] Unweighted proportion in the four study cities.

For those who reported having had sex with a nonregular partner in the previous 12 months, specific questions were asked about their most recent sexual intercourse of risk: 29% of men and 59% of women said they had sex in exchange for money; and 28% and 36%, respectively, that it was with somebody whom they had met for the first time. A total of 17% of men and 28% of women reported both characteristics — on the last occasion there was payment of money and the partner was a stranger, i.e., it was essentially commercial sex.

Use of condoms in their most recent intercourse with a nonregular partner was reported by 47.9% of men and 47.1% of women (Fig. 1), but there were striking differences between the study sites. In Bahir Dar, 37% of men reported using condoms during sexual intercourse with their most recent nonregular partner, while in Dire Dawa, close to 59% did so. A total of 16% of men and 21% of women had no knowledge about condoms, and 12% and 25%, respectively, were unable to specify where they could find them. However, in their most recent sexual intercourse in commercial sex encounters, as defined above, use of condoms was reported by 55% of men and 67% of women.

The incidence of reported episodes of urethritis in men over the previous 12 months is shown in Fig. 1. Reported STDs were highest among 20–24-year-olds, with a peak of 8.2%. More than half the male respondents with one or more episodes of urethritis sought advice from a clinic, hospital, or health worker for their last episode, 30% from friends and relatives, and 8% from a traditional healer. For their last STD episode, 27% bought medicine directly from a pharmacy or a shop, 46% from a health centre or a health worker, 14% received free drugs, and 7% used medicine from home.

Condom availability at central and peripheral levels

The estimated number of condoms available in Ethiopia during the 12 months preceding the survey was slightly over 25 million (Table 3). Hence, assuming for international comparison a common denominator of all respondents aged 15–49 years, the number of condoms available per person per year was 1.3 (PI 2).

The survey for condom availability at the peripheral level (PI 3) covered 306000 inhabitants aged 15–49 years. In the 12 months preceding the survey, for 80% of this population, condoms were available in at least one outlet in the community in which they lived. However, the study showed that condom availability (PI 3) decreased with the distance from the capital city. In Addis Ababa, each population cluster had at least one outlet where condoms were available regularly throughout the year (100%), whereas in Awassa, Dire Dawa, and Bahir Dar, the availability was 80%, 50%, and 40%, respectively. Shops and pharmacies were the main source of condoms, with the health sector contributing least (12% in Addis Ababa, 4% in Awassa, 8% in Bahir Dar and 5% in Dire Dawa).

Table 3: **Number of condoms available for distribution in Ethiopia, 1 August 1992 to 31 July 1993**

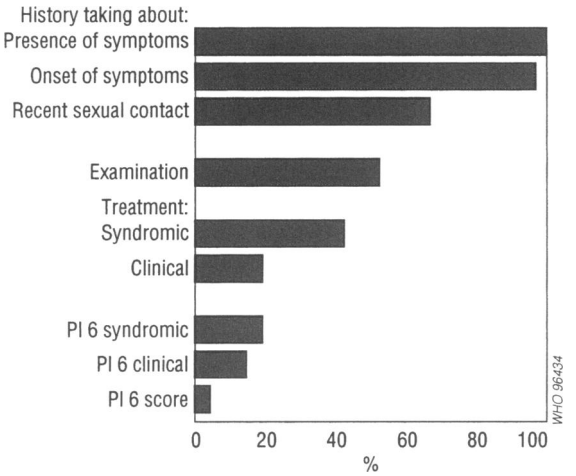
Agency	Beginning of year stock	No. received	Total
Ministry of Health	2592000	864000	3456000
Family Guidance Association	688500	1004000	1692500
Population Services International	4511000	15713000	20224000
Total	7791500	17581000	25372500

STD case management (PI 6 and PI 7)

A total of 20 government health facilities were identified where at least one HCP at or above the level of a nurse had reported dealing with five or more STD patients during an average week. Altogether, 342 patient–HCP consultations were observed and 64 HCPs were observed and interviewed. Among the HCPs who were also interviewed, 41 (64%) were doctors and 23 (36%) nurses. Among the STD patients, 67% were men and 77% were less than 30 years of age.

Clinical management of cases. Observation showed that health care providers almost always enquired about the present symptoms and their duration, while questions on recent sexual contacts were not raised in 34% of cases. The external genitalia were examined for discharges and lesions in only 52% of patients (Fig. 2). No laboratory requests were made in 87% of cases, yet 85% of diagnoses were pathogen-specific (e.g., the clinician decided whether it was gonorrhoea or nonspecific urethritis). Syndromic diagnosis was made in only 9% of cases. The adequacy and effectiveness of treatment was compared with the standard national STD management protocol (*11*) and WHO guidelines (*10*). On this basis, 18.6% of patients received effective syndromic treatment, 39.3% effective etiological treatment, while 42.1% were treated ineffectively. The overall PI 6 score in the health facilities was 4%, while the corresponding interview result for appropriate management was 16%. All HCPs interviewed

Fig. 2. **Proportion of 342 observations in which different aspects of STD clinical management were properly handled.**



responded that there were shortages of drugs and other supplies in the clinics.

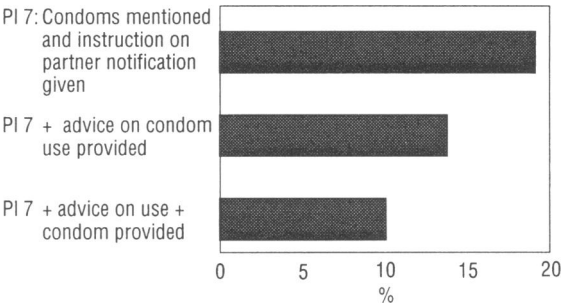
Health promotion advice. As recorded by observation, the risk of HIV/AIDS was mentioned to 32% of STD patients, 17% were advised on the use of condoms, and 35% on partner notification. The overall PI 7 score was 19% (Fig. 3), being 33% in Awassa and 8% in Dire Dawa. In comparison, 55% of HCPs during the interviews responded that they were providing advice on condoms and partner notification to their clients.

HIV/syphilis results (PI 8 and PI 10)

A total of 2400 blood samples from antenatal clinic (ANC) attendees in Addis Ababa aged 15–24 years were tested for both HIV and syphilis serology (RPR test). The results are shown in Fig. 4. The RPR results (PI 8) revealed that the positivity rate for all ages was 8.8%, reaching a peak among 16–17-year-olds and being 7–9% for 18–24-year-olds. There were no significant variations according to women's parity.

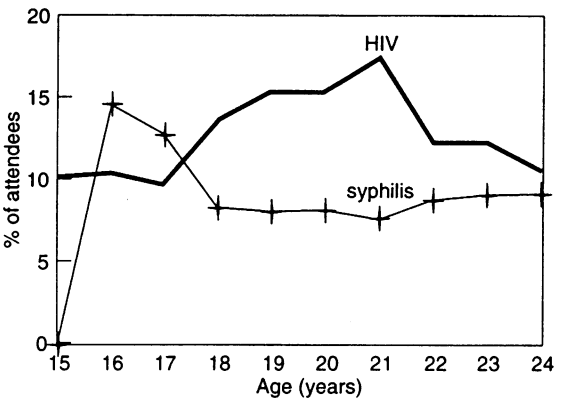
The overall HIV prevalence for the study population (PI 10) was 13.6% (Vironostica ELISA kit), being 10% among 16–17-year-olds, with a marked increase at 18 years of age (14%), reaching a peak at 21 years of age (18%) and then stabilizing at 11–12% up to 24 years of age. There was a significant drop in HIV prevalence with parity — the seroprevalence among nulliparae being 16.6% (n = 1751), but among women with three or more pregnancies

Fig. 3. **Proportion of 342 observations in which different aspects of STD prevention were properly handled.**



9.6% were HIV seropositive. The prevalence of HIV infection among RPR-positives was 23% compared with 13% among RPR-negatives.

Fig. 4. **Prevalence of HIV/syphilis (RPR test) among antenatal clinic attendees aged 15–24 years in 16 clinics in Addis Ababa.**



Discussion

The high level of knowledge of practices that prevent spread of STDs in the four study cities among all age groups indicates that some success had been achieved in educating the general population. The score for PI1 is considerably higher than the level of knowledge among high-school students in 1990 in Addis Ababa, only 60% of whom were able to cite at least two preventive practices (*12*).

The overall proportion of sexually active urban adults who reported having sex with a nonregular partner over the previous 12 months was 11%, which lies in the low end of the range for other sub-Saharan

countries (*13*). The relatively high percentage of nonregular sexual intercourse among teenagers, and more markedly among young adults, indicates that sex education should start early in life within the family and be incorporated into the curriculum at primary and secondary school level. In 1990 a study in Addis Ababa showed that about 38% of high-school students aged 13–19 years reported having had two or more sexual partners (*12*). Nongovernmental organizations and government agencies should pay special attention to providing sex education to young people who have left school, since only a minority of the relevant age group attend school.

Availability of condoms at the central level has increased dramatically over the last 9 years in Ethiopia. In 1987 there were only 20000 condoms, which were solely for family planning purposes, an estimated 6.24 million annually in 1991 (*2*), while the present study indicated that between the period July 1992 to June 1993 over 26 million were available in Ethiopia. Since 1990 condoms have been promoted and marketed in shops (kiosks) and bars using schemes devised by Population Services International and the national AIDS control programme (*2*, *3*). Using kiosks as a condom outlet appears to be one of the most appropriate ways of making them readily available in Ethiopia, since such shops are found everywhere in the community, open until midnight, and are easily acces-sible for customers to purchase a condom anonymously. Schools, recreational centres, and other social gathering places should be considered and explored as additional outlets.

Reported use of condoms in the most recent sexual intercourse of risk was higher than that documented in other studies of different population groups in 1988 (<3%) (*14*, *15*). However, since the HIV infection rates among antenatal clinic attenders are continuing to climb in Ethiopia (*2*, *8*) much still remains to be done to increase safer sexual behaviours, including those used in regular relationships.

Although STD patients require health education in order to reduce their risk of HIV infection or repeated episodes of STDs, only 19% of the study patients were given any preventive advice. In 1992, only 100000 condoms were distributed in STD clinics in the country (10% of the level that was planned) and not more than 400 partner notifications were made (*2*, *3*). This indicates the need for further efforts to change the attitude of health care providers to a more comprehensive approach to the prevention and clinical management of STDs in Ethiopia and elsewhere (*16*).

Little is known about the quality of health services in the private health facilities that treat STD patients in Ethiopia. Before 1994, the country had no clear-cut policy on licensing private health care facilities, and patients were dealt with by health care providers of any level in the private clinics. There were no standards laid down and no government office to supervise the quality of services. The efforts by the survey field-team to include private facilities in the study failed mainly because of their suspicion of the government's attitude towards the private health care sector. However, since the public health facilities are overstretched, many patients in Ethiopia attend private clinics. Exclusion of the private sector from the assessment may therefore have affected the overall evaluation results. The current improvements in the licensing and granting of official permission for private medical practices may permit follow-up surveys to gather a better picture. Upgrading prevention and clinical management skills through the provision of standard guidelines, treatment flow-charts, and refresher training will help to improve the entire STD/AIDS programme in Ethiopia.

The study also indicated the widespread nature of the HIV epidemic among sexually active females, with an HIV prevalence rate of around 10% among 16- and 17-year-olds. However, this specific group of pregnant teenagers clearly does not reflect the behaviour pattern of other girls of a similar age, and should be considered as a highly vulnerable group exhibiting a combination of unwanted pregnancies, STD, and HIV infection.

In summary, the baseline data collected in 1993 in four cities of Ethiopia points to the need for continued and increased efforts towards a specially targeted intervention programme for youth, and the urgent need for greater condom promotional activity and availability, particularly at the regional and provincial levels. Comprehensive STD case management, including primary prevention and syndromic diagnosis and treatment, needs to be improved dramatically, both in Addis Ababa and at the peripheral level. Finally, it is essential that a repeat assessment be conducted in 1997–98 in order to document progress made, along with continuous HIV surveillance to interpret trends (*17*).

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Résumé

Données de base fondées sur des indicateurs de prévention pour l'évaluation d'un programme de lutte contre le SIDA: une étude de cas en Ethiopie

Les stratégies de prévention de la transmission du virus de l'immunodéficience humaine (VIH) comportent des activités d'information du public sur les moyens de se protéger contre l'infection à VIH et de promotion des comportements à moindre risque. Il semble de plus qu'une prise en charge précoce et adaptée des autres maladies sexuellement transmissibles soit efficace pour réduire la transmission du VIH. L'efficacité des programmes et projets axés sur la prévention du VIH doit être périodiquement évaluée. Entre mars et septembre 1995, dix indicateurs de prévention élaborés par le Programme mondial OMS de lutte contre le SIDA ont été utilisés pour constituer une base de données de référence pour les évaluations ultérieures du programme éthiopien de lutte contre le SIDA. Ces indicateurs ont été mesurés lors d'une enquête en population, par examen des registres et recours à des informateurs-clés, observations et entretiens dans les établissements de soins, et enquête sérologique chez les consultantes d'un dispensaire prénatal. L'enquête a donné les résultats suivants: bonne promotion de l'information sur les pratiques préventives; présence de comportements sexuels à risque chez une proportion relativement importante d'hommes jeunes; faible accessibilité des préservatifs en dehors de la capitale Addis-Abeba; très faible prise en charge des cas de MST. La prévalence de la syphilis était de 8,8% et celle du VIH de 13,6% chez les femmes enceintes âgées de 15 à 49 ans. Ces résultats serviront de base, lors des enquêtes ultérieures, pour évaluer l'efficacité des programmes de prévention du VIH en Ethiopie.

References

1. **Zewdie D et al.** Development and management of the AIDS control programme in Ethiopia. *Ethiopian journal of health development*, 1990, **4**: 87–96.
2. *1992 Annual report, Ethiopian National AIDS Control Programme.* Addis Ababa, Ethiopian Ministry of Health, 1992.
3. *1993 Annual report, Ethiopian National AIDS Control Programme.* Addis Ababa, Ethiopian Ministry of Health, 1993.
4. *External review report of the Ethiopian AIDS Control Programme, May 1989.* Addis Ababa, Ethiopian Ministry of Health, 1989.
5. *External review report of the Ethiopian AIDS Control Programme, September 1991.* Addis Ababa, Ethiopian Ministry of Health, 1991.
6. *Internal review report of the Ethiopian AIDS Control Programme, October 1992.* Addis Ababa, Ethiopian Ministry of Health, 1992.
7. The current global situation of the HIV/AIDS pandemic. *Weekly epidemiological record*, 1994, **69** (26): 189–196.
8. **Mertens TE, Burton A.** Estimates and trends of the HIV/AIDS epidemic. *AIDS*, 1996, **10** (suppl. A): S221–S228.
9. **Mertens TE et al.** Prevention indicators for evaluating the progress of national AIDS programme. *AIDS*, 1994, **8**: 1359–1369.
10. *Management of patients with sexually transmitted diseases.* Geneva, World Health Organization, 1991 (Technical Report Series No. 810).
11. *National STD management protocol.* Addis Ababa, Ethiopian Ministry of Health, 1992.
12. **Gebre S.** Sexual behaviour and knowledge of AIDS and other STDs. *Ethiopian journal of health development*, 1990, **4**: 123–131.
13. **Caraël M et al.** Sexual behaviour in developing countries: implications for HIV control. *AIDS*, 1995, **9**: 1171–1175.
14. **Mehret M et al.** HIV infection among employees of the Ethiopian Freight Transport Corporation. *Ethiopian journal of health development*, 1990, **4**: 177–182.
15. **Mehret M et al.** Pregnancy/STD protective means used for HIV by female sex workers in Ethiopia. *Ethiopian journal of health development*, 1990, **4**: 139–142.
16. **Mertens TE et al.** Are opportunities for HIV prevention being missed? Observations of sexually transmitted disease consultations in Madras, India. *British medical journal*, 1996 (in press).
17. **Mertens TE, Low-Beer D.** HIV and AIDS: where is the epidemic going? *Bulletin of the World Health Organization*, 1996, **74**: 121–129.