West and Central Africa

Nathalie Lydié*and Noah Jamie Robinson**

ABSTRACT

In West and Central Africa, countries with high rates of emigration and immigration tend to have higher rates of HIV infection. However, there is one exception, Senegal, an exception demonstrating that high levels of mobility and migration do not necessarily lead to rapid and extensive spread of HIV infection.

Five different population groups are considered in this article, either because their numbers are substantial or because their role in the spread of HIV and STDs is known to be important. They are migrant labourers, truck drivers, itinerant traders, commercial sex workers (CSWs), and refugees.

It is difficult to estimate numbers of *migrant labourers* but they are common in West Africa. Principal migration routes flow towards the coast, with three coastal countries constituting the main centres of immigration: Senegal, Nigeria and Côte d'Ivoire. In Central Africa, the most prominent are between Cameroon, Congo, Gabon and the Democratic Republic of Congo (formerly Zaire). The role of *truck drivers* in the spread of HIV/STDs is well documented in East Africa, but less so in West and Central Africa. *Itinerant trading* is often a major economic activity for women. Itinerant women traders may be especially vulnerable to infection with HIV and other STDs since their trading activities often involve travelling long distances without their families and selling sexual services to supplement their other trading activities. In West and Central Africa, *prostitutes* constitute a particular type of migrant, many of whom travel on an international scale. Prostitutes from Senegal and Guinea Bissau work in Gambia, those from Togo work in Côte d'Ivoire, and those from Ghana work in Benin, Senegal and Côte d'Ivoire. Finally, the continent has seen large-scale *refugee* movements in recent years.

The research indicates a complex relationship between migration and HIV infection. Clearly not all migrants have the same risk of infection and thus do not contribute equally to the spread of HIV. However, there is little analysis to date on the influences of different types of migration (which

* Centre français sur la population et le développement (CEPED), Paris.
** Institut national de la Santé et de la recherche médicale (Inserm), Unit 88, Paris.

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might be characterized by duration, frequency of return visits, living conditions, etc.) on the spread of HIV infection. Strong associations between migration and HIV seropositivity have suggested to various authors that migrant workers may be more involved in sexual activities with multiple partners, particularly while away from their home environment. However, few studies verify this hypothesis directly.

Practical strategies for preventing the spread of HIV/AIDS among migrant populations in West and Central Africa must aim at providing information before departure, along the communication routes, at the final destination and at the time of their return journey. The degree of concentration at each stage will depend on the characteristics of the population. For example, male migrants should be informed before departure of the risk they take by having non-protected sexual contacts during their absence. This is perhaps the most effective strategy for truck drivers and seasonal migrant labourers. Whatever strategy is used, however, solid collaboration will be required between countries, particularly with respect to information and prevention campaigns, and to the avoidance of stigmatization of any group of individuals.

INTRODUCTION

Studies carried out by the Network of Migration and Urbanization in West Africa (REMUAO) show that between 1988 and 1992 about 5 million of the 26 million persons aged 15 years and over living in Network countries had migrated within or between those countries[1] (CERPOD, 1995). These movements occurred in different epidemiological settings with respect to HIV infection. In West Africa, for example, Côte d'Ivoire is an epicentre of HIV infection. In Abidjan, HIV prevalence among antenatal clinic (ANC) attendees has reached levels of between 10 per cent and 15 per cent (MAP, 1997). Similar rates have also been observed among women in Ouagadougou and Bobo-Dioulasso (Burkina Faso). In most other countries in this region, both HIV-1 and HIV-2 infection have stabilized at less than 5 per cent in antenatal clinic attendees. HIV prevalence among women in Central Africa has also remained relatively stable, with levels generally not exceeding about 5 per cent among adults in urban centres, although some studies have reported higher prevalence among ANC attendees: 10 per cent in Pointe Noire, Congo and 16 per cent in Bangui, Central African Republic (MAP, 1997).

Countries with high rates of emigration and immigration tend to have higher rates of HIV infection although Senegal is an exception. In Dakar, the capital, HIV prevalence rates among pregnant women seem to have stabilized at less than 1.5 per cent in a context marked by extensive population movements. This exception demonstrates that high levels of mobility and migration do not necessarily lead to rapid and extensive spread of HIV infection.

This article reviews scientific and grey literature over the past ten years on the link between migration/mobility and the spread of STDs, how migration/ mobility influence social and sexual networks, and its effect on the spread of HIV. The five migrant groups listed above have been studied separately.[2]

THE MIGRANTS

The population groups considered in relation to West and Central Africa, either because their numbers are substantial or their roles in the spread of HIV and STDs are known to be important, are migrant labourers, truck drivers, itinerant traders, commercial sex workers (CSWs), and refugees.

Migrant labourers

While migrant labourers stay at their destinations for periods of between several months and several years, they also return to their places of origin during this time, sometimes for relatively long periods. Circulatory (repeated) migration is the typical pattern.

In Burkina Faso, it has been estimated that about 60 per cent of men have been migrant labourers at some time in their working lives (Traoré et al., 1993). In the region of Ziguinchor in Senegal, 80 per cent of women aged 15-24 and 82 per cent of men aged 20-40 work as migrant labourers each year (Pison et al., 1993). In Niger, between 25 per cent and 80 per cent of men aged 18-40 go to the coast each year to find work (Painter, 1992). They are usually involved in seasonal migration for between 10-15 years. Principal migration routes are towards the coast, with three coastal countries constituting the main centres of immigration: Senegal, Nigeria and Côte d'Ivoire. Immigration to Senegal is predominantly from Guinea-Bissau, Guinea, Gambia and Mauritania, and is concentrated in Dakar, the capital.

Nigeria attracted a large number of immigrants after the petrol boom of 1970. Migration flows are not easily mapped but emigration seems to have been considerable from Ghana and Niger. The majority of immigrants to Côte d'Ivoire are from Mali and from Burkina Faso (especially from the region of Mossi Plateau). They mainly set up home in rural areas where they work as labourers in large agro-industrial complexes. Because these industries are located mainly in the south of the country, the vast majority of immigrants to Côte d'Ivoire pass by Bouake and Abidjan.

Burkina Faso has high levels of internal migration. The country is covered with ore-mining sites that attract mobile populations. Ore is also found in the region of Kayes in Mali, and on the borders with Senegal and Guinea.

There are also population movements between many West and Central African countries. In West Africa these are mainly between Mali, Burkina Faso, Benin, Togo, Niger, Senegal and Nigeria. In Central Africa, the most prominent movements are between Cameroon, Congo, Gabon and the Democratic Republic of Congo (formerly Zaire).

Truck drivers

Truck drivers are of particular concern in the context of the spread of STDs because they often practice high-risk behaviours and can spread STDs over long distances. They travel frequently, often to and from areas with high HIV prevalence and, because they are often away from home for long periods, they may choose to have many sexual partners. Their role in the spread of HIV/STDs is well documented in East Africa; it is less well documented in West and Central Africa.

Female itinerant traders

Itinerant trading is often a major economic activity for women who constitute an important link in the distribution chain of goods in West Africa. Itinerant women traders may also be especially vulnerable to infection with HIV and other STDs because their trading activities often involve travelling long distances without their families. Selling sexual services may also supplement their trading activities.

Commercial sex workers

In West and Central Africa, prostitutes constitute a particular type of migrant. Many travel widely in the region. Prostitutes from Senegal and Guinea Bissau work in Gambia (Pépin et al., 1989, Pickering et al., 1992), those from Togo work in Côte d'Ivoire (Ouattara et al., 1989), and those from Ghana work in Benin, Senegal and Côte d'Ivoire (Anarfi, 1992). Mobile sex workers contribute to the spread of STDs in different ways: they may take STDs from cities to rural areas when they return home, and spread them among the local community; they may transmit STDs to male migrants who use their services while away from home and the migrants may then transmit them to other sex workers or to their wives or other female partners; and they often work in more than one place, thus increasing the potential for STDs spread.

Refugees

While Africa had about 400,000 refugees in 1960, there have been large-scale refugee movements in recent years (Gardner and Blackburn, 1996). In West Africa, for example, Liberia has been stricken by civil war since 1989. More than 800,000 of the 2.4 million inhabitants have fled to exile, mainly to Guinea,

Côte d'Ivoire, Sierra Leone, Ghana and Nigeria. At least as many have also been displaced within the country (HCR, 1995). In Central Africa, the Democratic Republic of Congo has had a regular flow of refugees, principally from Rwanda but also from Burundi and Angola. In 1995 it received the largest number of refugees following the civil war in Rwanda (almost 2 million). To be uprooted, with its consequences on the structure of family and society, places refugees in a situation of great vulnerability with respect to spread of diseases, including STDs.

FINDINGS

MIGRANT LABOURERS

Temporary migration for work is the oldest and most widespread type of migration in West Africa. In colonial times it reflected mainly forced migration for work in mines and on railroads and plantations. Subsequently, migrations tended to follow economic opportunities. For example, every year at the end of the rainy season when the crops have been harvested, hundreds of thousands of men go to the coast for 4 to 8 months in search of work.

Demographic characteristics

- Migrant labourers tend to be young men. In the study undertaken by CARE the mean age of migrants from Mali and Niger was 33 years (median = 30 years) (Painter, 1992). In Niakhar, Senegal, most migrant labourers who spent their first dry season outside their villages were aged between 15 and 27 (Becker, 1991).

- Whether married or not, seasonal migrants tend to move alone. In a study of migrants from Mali and Niger working in Côte d'Ivoire, 90 per cent were married, and of these less than 10 per cent were accompanied by a partner (Painter, 1992).

- Seasonal migrants tend to have a low level of education, partly because most of them come from rural areas. In the study in Côte d'Ivoire, the average period of schooling for Nigeriens[3] was 4 years and for Malians 7 years (Painter, 1992). Fifty-five per cent of migrants from Burkina Faso, interviewed in both urban and rural areas of Côte d'Ivoire, were illiterate (Kane et al., 1993).

Because it comprises mainly young, single men with low levels of education who migrate from rural areas without partners, this type of migration had been implicated in the spread of STDs even before the era of HIV infection. For example, in studies completed in the 1960s, the primary risk factor for gonor-

rhoea in men from East Africa was male migration. A pattern was established of spread of gonorrhoea from urban areas and areas of high labour concentration to rural areas. It was also established that higher rates of STDs were present around areas of high labour concentration. In 1949, a health survey in Cameroon found a 10 per cent prevalence of gonorrhoea in areas surrounding the labour concentrations, but only 4.2 per cent in rural areas a little further away. It was concluded that migrant workers were a major cause of high incidence of venereal disease among populations in the plantation areas (Hunt, 1989). Migrant labourers returning to rural areas sometimes return with STDs, thus exposing other individuals.

We have used a model, whereby STDs spread from areas of high prevalence to areas of low prevalence via migrant labourers, to describe the spread of HIV infection by male migrant labourers in West and Central Africa.

Migration as a risk factor for HIV/AIDS

Between October 1988 and October 1989, 81 per cent of patients testing positive for HIV infection in a bush hospital in Benin were non-Beninois (primarily from Burkina Faso, n=424) (Vigano et al., 1991). The analysis by Sow et al. of 266 AIDS case reports from the University hospital of Fann in Dakar, Senegal, between 1986 and 1993, found that 70 per cent were migrant labourers who had travelled in Central and West Africa. Similarly, in a study carried out among 50 hospitalized patients in Niamey, Niger, almost all the reported AIDS cases had a history of migration in Côte d'Ivoire (Ousseini H., 1989).

Migration of partner as a risk factor for individuals

Infected migrants may introduce HIV into their home environment through sexual contact with their partners. A study by Pison et al. (1993) seemed to support this. In the Senegalese region of Ziguinchor, where 82 per cent of men aged between 20 and 40 migrate each year, migration was the only sociological or behavioural factor significantly associated with their sero-status. None of the married women reported casual partners, whereas 22 per cent of married men and 50 per cent of non-married men with regular partners reported having sexual contacts with casual partners (Enel and Pison, 1992). All married men who reported extramarital relationships reported having them outside their villages during seasonal absences. The authors conclude that in this community many HIV infections were probably transmitted to non-married and married men through sexual contact with infected women during their seasonal migrations. These men then had the potential to transmit infection to their wives or regular partners once back in their villages.

In 1989, researchers carried out a survey in 11 villages in northern Senegal among persons having lived outside Senegal, and their spouses (n=258). Adults were also drawn from eight other villages in the same area; of which 186 had travelled outside Senegal for short periods and 414 had not left Senegal in the last 10 years. Of those who had travelled internationally for extended periods, 39 were found to be seropositive (17 men, HIV prevalence 27.0 per cent and 22 women, HIV prevalence 11.3 per cent). Of those who had travelled outside Senegal for short periods, 10 were infected (6 men, HIV prevalence 7.7 per cent and 4 women, HIV prevalence 3.7 per cent). Among those who had not left Senegal, only two were infected (one man, HIV prevalence 0.6 per cent and one woman, HIV prevalence 0.4 per cent). From these results it was concluded that most cases of HIV infection in this area were related to temporary expatriation, and that women were infected mainly through sexual contact with their seropositive partners. This was reinforced by the fact that serologic concordance between women and their spouses was found to be high (Kane et al., 1993.) As Anarfi (1993) noted, "the circular nature of migration and the maintenance of links with home through frequent visits puts people at risk at both ends of the migratory movement."

Mapping migration patterns

Geographers have used results from empirical studies to describe how the mobility of populations has played a role in the spread of HIV infection (Amat-Roze, 1989, 1993; Rémy, 1990, 1993). From certain central foci, HIV spread to neighbouring parts primarily by seasonal migrants leaving their villages during the dry season in search of employment on plantations or in ports. This model fits reasonably well with the observed association between the concentration of mobile populations and the regional variation in HIV prevalence. For example, countries with the most active labour migrant force in West Africa, Côte d'Ivoire and Burkina Faso, record the highest levels of adult HIV prevalence.

There are, however, exceptions to this rule. In a study carried out in Niakhar, Senegal, among 2,022 adults, Becker (1991) noted that sexual behaviour was strongly controlled by cultural and traditional norms and that migration was not associated with a substantial change in sexual behaviour. Thus, sexual behaviour of migrants did not precipitate a rapid spread of HIV infection in this rural environment.

Relationship between migration and HIV infection

These results demonstrate a complex relationship between migration and HIV infection. Clearly not all migrants have the same risk of infection and thus do not contribute equally to the spread of HIV. However, analyses of the influences of

different types of migration (which might be characterized by duration, frequency of return visits, living conditions, etc.) on the spread of HIV infection do not appear in the literature.

Strong associations between migration and HIV seropositivity have suggested to various authors that migrant workers may be more involved in sexual activities with multiple partners, particularly while away from their home environment. However, few studies verify this hypothesis directly. To clarify the relationship between migration, sexual behaviour and HIV infection, CARE undertook a study in Mali and Niger in 1991 among migrants to Abidjan (Painter, 1992). They were contacted either at bus stations at their point of departure or at destination, at place of work or where they were staying. About 50 per cent of those from Niger and Mali reported having had sexual contacts at their destination (n=42). More than 75 per cent of those reporting contacts believed that their partners also had sexual contacts with other men. Furthermore, only 50 per cent had ever heard of condoms and even less had seen them. Among migrants from Mali, 63 per cent reported knowing how to use condoms, compared with only 10 per cent of the Nigeriens. Less than 10 per cent reported using them and only one man reported travelling with condoms. Paradoxically, more than 50 per cent of the Malians reported having had an STD compared with 4 per cent of the Nigeriens.

In a study in Ghana, the majority of migrants reported sexual contacts at their destination in the previous month (Anarfi, 1993). The researcher pointed out that most migrants' sexual encounters were with regular partners. Nevertheless, there were a substantial number of contacts with casual partners, particularly among international migrants.

Even without precise data on the sexual behaviour of migrants while away from home, one finds several hypotheses in the literature which try to explain why migrants may adopt high-risk sexual behaviours:

- One hypothesis is that migrants often have problems adapting to a new environment, which influences their mental and physical health and their sexual behaviour. The tendency for migrants to have multiple partners and to visit prostitutes is the result of a process associated with migration that not only increases household separations but also concentrates migrants in one place. These effects then lead to increases in stress and vulnerability (Doyal and Pennell, 1981; Hunt 1989; Basset et al., 1993). Doyal explains that the migrant labour system has led to prolonged family separations which have had serious repercussions for all concerned and that the absence of partners of male migrants is compounded by the fact that their new environment is often almost exclusively male. The resulting unequal sex ratio makes it difficult for men to establish partnerships with women, and encourages contacts with prostitutes.

- A second hypothesis suggests that the migrant acts primarily as a foreigner, and that his anonymity at destination increases his sexual freedom (Hrdy, 1987).

- A third hypothesis is that the tendency of migrants to visit prostitutes arises from the fact that they are not sufficiently integrated to meet young women. Offering impersonal relationships, prostitutes are easily and rapidly accessible (Anarfi, 1993).

These hypotheses have been supported by data from studies in various locations. In a study of migrants working in South African mines, it was found that the long distances from local populations and the imbalance between men and women encouraged contacts with prostitutes (Jochelson et al., 1991). This was supported by a study carried out in 1988 in the agro-industrial complexes in West and Central Africa which showed that, in the Abidjan region, certain agro-industrial companies organize visits by prostitutes to their sites on the weekend following each monthly pay day (Kouamʃ, 1993).

Another example relates to men of the Mlomp region of Senegal who migrate for several months to harvest palm wine in palm groves, usually far from towns. While visits to towns were irregular, some men reported having sex with prostitutes and most seem to have partnerships with married women living in villages near to where the palm wine is harvested (Enel and Pison, 1992).

Sexual liberation described in the second hypothesis may not always be the case, especially in West Africa where a person who migrates for the first time is often looked after (and lodged, at least temporarily) by an extended family member or by a friend from the same region (Antoine, 1991). Such an environment might control, to an extent, the life of the migrant, including his sexual behaviour. The town is therefore not necessarily the depraved place sometimes depicted. Generally, the situation is rather more complex. In the 1992 study among migrants moving from Mali and Niger to Abidjan, Painter described the difficult conditions under which migrants live. The areas are often densely populated and their personal living space limited to a place to sleep and space to put a few personal belongings. The roads around where they live throb with activity every night and the type of environment leads to a great deal of social exchange and interaction, including exchange of information, goods and services, and opportunities for dating and sexual favours (Painter, 1992).

Sexual partners of male migrants to urban areas are not restricted to CSWs, as the third hypothesis may suggest. Longer-term migrants, for example, may be better integrated into the society, have a wider social network, and find it easier to meet local people. The type and extent of sexual partnerships of urban migrants are associated with level of permissiveness. In urban areas, higher levels of sexual activity and risk behaviours may influence the extent of the

migrant's sexual behaviour. As one study notes, migration per se may not be the cause of multiple partners; rather, the risk behaviour of migrants is also associated with their demographic characteristics (young and unmarried) and exposure to an environment with more risk behaviour (Somsé et al., 1993). Painter's conclusions (1992) support these assertions. Having arrived in Côte d'Ivoire, and in Abidjan in particular, migrants live and work in a social context whereby access to sexual contacts is very open and easy. All that is required is a little money. These men perceive the risks associated with non-protected sex and often report to interviewers that the best way to avoid STDs is sexual abstinence. Despite increasing concern about HIV/AIDS among migrant populations, a large number of individuals affirm that they continue to have non-protected contacts and rely on chance not to become infected with HIV and other STDs.

Knowledge about HIV/AIDS and other STDs

Almost all the migrants from Mali and Niger interviewed in the study by CARE had heard of AIDS, and there seems to have been a general understanding of the seriousness of the problem (Painter, 1992). However, level of knowledge about AIDS remains poor. For example, some still believe that HIV can be transmitted by touching or kissing, or by sharing objects or habits, or even from toilet seats. Apart from weight loss, little is known about other symptoms of HIV disease. With respect to other STDs, the situation is no better; furthermore, treatments are often ignored, especially among youths. Radio is the principal source of information, followed by television and newspapers. However, information is also circulated between friends, by posters and billboards and through health professionals. Many migrants appear to associate prevention most strongly with fidelity, abstinence and the need to avoid partners at high risk, such as prostitutes. Few respondents mention use of condoms as a prevention measure. Two-thirds of migrants from Niger interviewed at Niamey reported that they did not know where to get hold of condoms either in Niger or Côte d'Ivoire.

These results indicate that much needs to be done concerning education and prevention among migrants. A study in Abidjan with a sample including 27 per cent foreigners, mainly from Burkina Faso and Mali (Yelibi et al., 1993), found that foreigners had a poorer knowledge of HIV transmission than those from Côte d'Ivoire. This lack of knowledge is explained partly by the lower level of education in the migrant population and their poorer knowledge of the French language. French tends to be the only language used in prevention programmes in Côte d'Ivoire.

While there are fewer female migrant labourers, in some communities they form a relatively large proportion of the female population. In the study in the

Ziguinchor region of Senegal, 80 per cent of women aged between 15 and 24 (and generally unmarried) were found to be involved in seasonal migration as house servants in the main cities of Senegal and Gambia. Married women usually spend the whole year in their village (Pison et al., 1993). In the Niakhar region of Senegal, Becker found that about 25 per cent of women reported having spent at least one year away from home in one of the main towns (in particular, Dakar) and the most common reason for this (35 per cent) was to work as a house servant. Neither study found a history of high risk behaviour among women who had lived in urban areas.

TRUCK DRIVERS

Truck drivers of West and Central Africa have not been studied as carefully as their counterparts in East Africa. However, as in East Africa, high prevalence rates have been observed among truck drivers along the main highways. Wilkins et al., (1991) found that HIV prevalence was 2.7 times higher in the Gambian towns of Soma and Farafenni, along the highway linking Gambia with Senegal, than in the Grand-Banjul area. Differences in prevalence are also marked between urban and rural areas. In the Sikasso region in Mali, through which runs the Abidjan-Bamako highway, prevalence is relatively high (5.7 per cent in 1993). The two semi-desert regions of north Timbuktu and Gao had prevalence levels three times lower (Maiga and Sissoko, 1993).

Main studies

Most studies among truck drivers in this region have been carried out in Burkina Faso (Testa et al., 1992, 1996; Sanogo, 1997; Banza, 1997), Niger (Mounkaila et al., 1993), Nigeria (Gaschau, 1992; Orubuloye, 1993) and Cameroon (Sam-Abbenyi et al., 1993). The studies were mainly among truck drivers and their assistants and mechanics. Duration of trips varied by type of journey (e.g., whether national or international). Mean duration of a trip was less than one week for about 70 per cent of drivers from Burkina Faso (Testa et al., 1992, 1996), but tended to be longer for those from Nigeria (Orubuloye, 1993). The sampled populations were drawn either from lists of trucking companies or transport unions (Testa et al., 1992, 1996, Mounkaila et al., 1993), or by sampling truckers at main truck stops (Orubuloye, 1993, Sanogo, 1997; Banza, 1997).

Socio-demographic characteristics

The mean age of truck drivers was generally between 30 and 40 years. Those working internationally often had more experience and tended to be older

(Mounkaila et al., 1993). Their assistants were generally younger (between 15 and 25 years). The majority of truck drivers were married and monogamous unions predominated in Burkina Faso (Testa et al., 1992, 1996), whereas polygamous unions were as common as monogamous unions in Nigeria (Orubuloye, 1993). The majority of the truck drivers had no formal education.

Prevalence of HIV and other STDs

Three of 61 truck drivers tested in Nigeria (4.9 per cent) were HIV positive (Gaschau, 1992). HIV prevalence among truck drivers from Niger (n=263) was 3.4 per cent (Mounkaila et al., 1993) and 14.6 per cent (n=157) among those from Cameroon (Sam-Abbenyi et al., 1993). In Niger, the prevalence was higher among exclusively international truck drivers (6.9 per cent; n=29) than among either those who work both nationally and internationally (3.3 per cent; n=121) or those who work exclusively nationally (2.7 per cent; n=113). However, these differences were not statistically significant (Mounkaila et al., 1993).

Prevalence of syphilis was found to be high in Niger and Cameroon (Mounkaila et al., 1993, Sam-Abbenyi et al., 1993): 11.5 per cent in truck drivers from Cameroon, and in Niger, 6.6 per cent among those working both nationally and internationally, 7.9 per cent among those exclusively working nationally and 10.3 per cent among those working only internationally.

In considering these findings it should be noted that in Niger, as in Nigeria and Cameroon, rates of HIV prevalence are high in comparison with those in the general population at about the same time. For example, HIV prevalence among pregnant women in both Niamey and Yaounde (n=400, n=301 respectively) was 1.3 per cent (Hassane et al., 1993, Cameroon Ministry of Health, 1993). It was 0.8 per cent (n=250) in the Nigerian capital of Lagos in 1991 among pregnant women (Nnatu et al., 1993). HIV prevalence levels among truck drivers in this region are much lower than those observed in the East African countries of Kenya, Tanzania, and Rwanda. (Carswell et al., 1989, Mohammed et al., 1990).

Distribution of risk factors for HIV infection

Information is available in the literature about a number of risk factors. The most important are as follows:

A large number of sexual partners. In 1991, 54 per cent of truck drivers from Burkina Faso reported ever having had sexual contacts during their trips and 14 per cent reported having had many contacts (Testa et al., 1992). Among those aged 18-44, 57 per cent reported having had sexual contacts, compared with 32 per cent aged 45 or over. In Nigeria, only 5 per cent of truck drivers reported

never having had a partner while on a trip (Gaschau et al., 1992). The others had, on average, six regular partners, approximately one for each night stop-over. One-third of drivers reported knowing the partners of their partners. In Cameroon, 62 per cent of truck drivers reported at least one partner during their last trip; 64 per cent of these reported commercial sex partners (Sam-Abbenyi et al., 1993). The mean number of partners was 3 (range 1 to 10) and 25 per cent of the drivers reported a different partner each night. However, when Testa et al., in 1993 repeated their study among lorry drivers from Burkina Faso, the proportion reported having contacts during their travels had decreased significantly (Testa et al., 1996). This decline affected all age groups. In 1993, 32 per cent of those aged 18-44 reported having had sexual partners (compared with 57 per cent, 2 years previously). Similarly, the percentage was 8 per cent for those aged 45 or over (compared with 32 per cent, 2 years earlier). These results are broadly similar to those of Sanogo (1997) who found that 32 per cent of drivers from Burkina Faso reported a casual partner.

Relatively low condom use. In Burkina Faso, the percentage of truck drivers who had ever used condoms remained at about 60 per cent between 1991 and 1993 (Testa et al., 1992, 1996). Of those who had used condoms, the proportion that always used them for extramarital contacts increased significantly between 1991 and 1993 from 61 per cent to 74 per cent. The proportion of those refusing to use condoms remained at about 40 per cent (Testa et al., 1992, 1996). Similarly, Banza's study of truck drivers from Burkina Faso found that 34 per cent reported that they had no intention of using condoms (Banza, 1997). Among truck drivers in 1991, 93 per cent knew where to buy condoms, 99 per cent knew the going price, 81 per cent reported that their use did not pose problems and 93 per cent knew that they should be used only once (Testa et al., 1992).

High frequency of other STDs. The presence of STDs increases the probability of HIV transmission. Studies carried out in Niger and Cameroon found high levels of syphilis, ranging between 6.6 and 11.5 per cent (Mounkaila et al., 1993, Sam-Abbenyi et al., 1993). Frequency of STD symptoms (urethritis, genital ulcerations) in truck drivers in the 12 months preceding the 1991 study in Burkina Faso were common (Testa et al., 1992, 1996). However, frequency decreased significantly between 1991 and 1993. History of STDs was significantly associated with unmarried and monogamously married men, compared with those in polygamous marriages (Testa et al., 1996). In Cameroon, 49 per cent of truck drivers reported an episode of gonorrhoea during a six month period. STDs were associated with increased HIV risk: for gonorrhoea, the odds ratios were 2.3 (95 per cent confidence interval: 0.8-6.2) and for syphilis 3.4 (1.0-11.2) according to Sam-Abbenyi et al., (1993). In Nigeria, 40 per cent of the drivers reported having been treated for STDs, mostly gonorrhoea and

syphilis (Gaschau, 1992). Furthermore, 77 per cent of drivers reported that their partners had also been treated for gonorrhoea or syphilis.

Other risk factors

In 1991, 77 per cent of truck drivers from Burkina Faso who spent a night at a hotel during a stop-over had a sexual contact, compared with 47 per cent ($p<0.001$) among those who slept elsewhere, for example with friends, family etc. (Testa et al., 1992). In 1993, these percentages ($p< 0.05$) were 38 per cent and 23 per cent respectively (Testa et al., 1996). Duration of trips is also associated with behaviour of truckers. In 1991, 73 per cent of those who had travelled for more than 7 days had had sexual contacts, compared with 47 per cent ($p< 0.01$) of those who had travelled for between 1 and 7 days (Testa et al., 1992). In 1993, the differences were no longer significant at 34 per cent and 25 per cent respectively (Testa et al., 1996).

Knowledge of HIV/AIDS and other STDs

Knowledge about HIV/AIDS is widespread among this population. More than 95 per cent of drivers reported having heard of HIV/AIDS (Sanogo 1997; Testa et al., 1992), and 80 per cent reported that it was a topic of discussion (Testa et al., 1996). Their main sources of information came from radio (81 per cent), television (72 per cent), friends and colleagues (57 per cent).

Even though almost all truckers had heard about AIDS and 90 per cent know that it has serious consequences (Testa et al., 1996), modes of HIV transmission remain poorly understood. In 1993, 32 per cent of truckers knew of at least three routes of transmission, compared with 23 per cent in 1991 (Testa et al., 1996). In Sanogo's study, 74 per cent cited sexual contact as a route of transmission; only 20 per cent cited blood transfusions. Understanding of the relationship between HIV infection and disease is generally poor. With respect to prevention measures, 54 per cent cited condom use, while 47 per cent cited fidelity (Sanogo, 1997).

FEMALE ITINERANT TRADERS

Female itinerant traders move from market to market generally selling food or clothes. The main studies involving these women have been in Nigeria (Omorodion, 1993, Orubuloye, 1993) and Ghana (Anarfi et al., 1997), either at market time (Omorodion, 1993, Anarfi et al., 1997) or in lorry parks or at roadside stops (Orubuloye, 1993). In Nigeria, Omorodion interviewed 100 women who traded clothes and food in a commercial centre of Benin City called New Benin Market. In the Brong-Ahafo region of Ghana, female traders

were contacted in two towns, Techiman and Yeji. In the first town a weekly market operates from Wednesday to Friday and attracts people from all over the country. Yeji is a port on the Volta Lake. The main trade is fish and trading is almost a daily affair. A total of 207 itinerant women traders were interviewed, 150 in Techiman and 57 in Yeji. In the lorry parks and at the roadside stops in the Nigerian city of Ibadan, 467 female hawkers who sold goods, cosmetics, clothes and plastic bags were interviewed (Orubuloye, 1993).

Demographic characteristics

The demographic characteristics of these women varied markedly between studies. Women working in the truck stop at Ibadan were young (mean age 19.7 years) (Orubuloye, 1993) compared with those in the other groups: mean age 40.1 years in Benin City (Omorodion, 1993), mean age of 35 years in Ghana (Anarfi et al., 1997). The majority of women had primary or secondary level education. In Ibadan, 29 per cent were married compared with 65 per cent in Benin city and 71 per cent in Ghana (reflecting the age differences). Mean number of children was 4.9 (Omorodion, 1993) and 4.1 (Anarfi et al., 1997). Given that these women were often on the move, they generally needed help with childcare (Anarfi et al., 1997). The youngest children were usually entrusted to the grandparents.

Prevalence of HIV and other STDs

None of the three studies provided results for prevalence of HIV or other STDs. However, 86 per cent in Benin city and 76 per cent in Techiman and Yeji reported having had and/or known someone with an STD. The women more often reported knowing someone who had had an STD than having had one themselves. However, their reported sexual behaviour illustrates their vulnerability.

Distribution of risk factors for HIV infection

The average number of on-going sexual partners reported by the women in Ibadan city was 2.3 (Orubuloye, 1993). In Benin city, 46 per cent of women said they had non-marital sexual partners (Omorodion, 1993). The itinerant women traders reported few partners and low sexual activity while away from home. However, reports from focus group discussions and from key informants suggest that these responses may be biased (Anarfi et al., 1997).

Some 38 per cent of women reporting extra-marital relationships reported having had them for economic reasons, suggesting that some of the traders found themselves compelled by circumstances to enter into sexual liaisons when they travel away from home. Such circumstances may include:

- The problem of accommodation. Anarfi explains that female traders often sleep in the open, which carries the danger of being assaulted or robbed. While accommodation with a local man may in fact be welcomed, any offer may have a hidden agenda involving sexual relations (Anarfi et al., 1997).

- Inadequate financial resources. Some women reported that they were driven to sleep with farmers before they could afford to buy yams to sell.

Anarfi concluded that high vulnerability of the women, coupled with extremely difficult work conditions, was often exploited by men with whom they came into contact. The extent to which sexual contacts were protected by condoms was not reported.

Knowledge of HIV/AIDS and other STDs

These women tend to be knowledgeable about HIV/AIDS and other STDs (Anarfi et al., 1997). About 90 per cent said they knew of one or more STDs; about 65 per cent mentioned AIDS and another 25 per cent mentioned gonorrhoea. Most of the respondents who mentioned AIDS were able to give a number of disease symptoms including losing weight, diarrhoea, vomiting and rashes.

COMMERCIAL SEX WORKERS

Prostitution has been defined as the exchange of sexual services for money or goods between two people (Day, 1992). However, in Sub-Saharan Africa this definition may be too broad. Women are often given money or goods in exchange for sexual services, even by regular partners. The literature on this subject is extensive and controversial. In this article we define prostitutes as women whose means of survival/subsistence is predominantly through the sale of sexual services, and we use the term interchangeably with commercial sex workers (CSWs).

Socio-demographic characteristics

Origin. CSWs often work outside their own country. They come from diverse places but there are some general trends. Ghanaian women often work in Abidjan, Côte d'Ivoire, where they may represent more than 50 per cent of CSWs (Kouamé, 1993). However, more recently numbers of Ghanaian CSWs seem to have decreased and numbers of younger Ivoirian CSWs increased. Several factors may explain this. First, AIDS-related mortality amongst Ghanaian CSWs has been relatively high, and fewer are being replaced by women coming from Ghana, partly because the economic situation in Ghana has been improving. Conversely, the economic situation of young women from Côte d'Ivoire has

been particularly difficult. Ghanaian women also work in Burkina Faso and Togo. Apart from a few Nigerians and Liberians, few CSWs in Ghana are actually from neighbouring countries (ACDI, 1997). Therefore, most women who offer their services are Ghanaian. In Abidjan, Nigerians represent about 5 per cent of CSWs (Kouamé, 1993). Further west, there is considerable cross-border movement between Gambia and Senegal. In a study carried out in Gambia in 1989-1990, 80 per cent of the 248 CSWs interviewed came from Senegal. Some were from Guinea Bissau (7 per cent) and the remainder from other West African countries such as Mauritania, Mali and Guinea (Pickering et al., 1992). In Benin, Ghanaians also predominate. Of 303 women interviewed in 1990, more than 87 per cent were from Ghana, 8 per cent from Togo, 1 per cent from Burkina Faso, 1 per cent from Nigeria and 3 per cent from Benin itself (Bigot et al., 1992).

Mobility. CSWs are often highly mobile. A study carried out in Farafenni town in Gambia showed that among 42 CSWs, only two had remained in the same compound for at least one year (Pickering et al., 1992). They generally moved between a set number of locations within the Sene-gambian region. Ninety per cent of women enrolled in the study had been to Senegal during the previous 12 months. In Abidjan, prostitutes also frequently move: among 127 interviewed, two-thirds had changed sites at least three times in the previous two years. The reasons given were that rental prices were too high (44 per cent); they sought a new clientele (33 per cent);they felt insecure (25 per cent) (Kouamé, 1993). In Côte d'Ivoire, three towns are particularly attractive to prostitutes: Yamassoukro, because of the numerous seminars and conferences held there; San Pedro, which is often used as a stop-over for truck divers from Mali and Guinea; and Oungalodougou because of large extent of weekend prostitution (Kouamé, 1993). At a regional level, prostitutes from Côte d'Ivoire regularly make trips to Burkina Faso, which is easily accessible by train or bus, particularly at market time. Wherever they may be, prostitutes tend to return at least once a year to their home area where they stay for up to several months.

Class and status. CSWs' incomes vary markedly according to their class and status. For example, in Abidjan, Anarfi (1993) identified four main types of CSWs. The first were high class sex workers, sophisticated women who live in apartments and limit their activities to men of higher status. These were the most expensive sex workers, charging on average US$76 a time. The second type of CSWs were neatly dressed and tended to place themselves at certain street vantage points during the early evening. They were usually picked up by clients in cars who stayed with them overnight either at their homes or in hotels. The third type are known as "tuutuu", derived from "two-two" which is short for "two pennies for two minutes". These were the most popular CSWs and usually receive clients in their own rooms. The average price was low, about 300 francs a time (less than US$2). The last type were "open market" CSWs. They were

mainly local women; many of the older ones are married and many of the younger ones are very young. They sell drinking water in plastic bags, fruit, cooked foods, etc. For these women, the transition from street vendor to informal sex worker, servicing clients who are willing to pay a little extra for an impromptu sexual encounter, may not be particularly difficult. They operate in open spaces outside their living areas and charge about 100 francs (less than US$1). The number of local women who engage in this combination of petty trade and selling sex varies according to local economic conditions. This group has been largely ignored by HIV/AIDS prevention programmes. Other types of CSWs also exist; most notably, brothel workers. In Togo, for example, a brothel may contain 6 to 14 women with an average price of about 200 francs (less than US$2) (Bassabi et al., 1997).

Other income sources. Apart from higher class CSWs, prostitutes often have other sources of income as well. This was the case for 40 per cent of those interviewed by Pickering et al. (1992) in Gambia. These women traded food, or were in dressmaking or hairdressing.

Age. The ages of CSWs vary markedly. As with income, age often varies with class of CSW. In Ghana, for example, the "seaters" who work from home in well defined areas are in general 35 years or older (ACDI, 1997). On the other hand, the "roamers" who tend to be attached to bars and hotels are younger and less well established. Child prostitutes (12-16 years old) have also been observed in Abidjan (Kouamé, 1993). It was estimated that child prostitutes may represent as many as 8 per cent of all CSWs in Abidjan.

Partnership status. CSWs are predominantly unmarried or divorced, and often have one or more children. The children are sometimes looked after by another family member (often on the mother's side) (Pickering et al., 1992). The women sometimes declare having boyfriends, but the nature of these relationships is not always clear.

Education. Most studies show that CSWs tend to have a fairly low level of education.

Sex work: choice or economic necessity?

The reasons women engage in prostitution are not always clear. Many studies show that women tend to migrate for the same reason as men, to find well paid jobs. Sex work is often the consequence of their inability to cope financially at their destination. Thus prostitution may appear the only or simplest way to improve one's lifestyle. However, some consider that the decision to enter into CSW is sometimes a positive choice made by the women. Results from a study in Gambia led Pickering et al. (1992) to conclude that CSWs constituted a

particular group of women who made a positive choice to opt for this type of life style.

Similarly Anarfi (1992) wrote that getting employment through prostitution on arrival at a destination was relatively easy, since neither training nor capital equipment were required. The author noted that the choice of working as a CSW was often decided before departure, on the advice of other CSWs. Established migrant CSWs often help newcomers to get rooms and initiate them into the profession by introducing them to male clients.

Prevalence of HIV and other STDs

Results for 1994-1997 show that HIV prevalence among CSWs in West Africa varies from less than 20 per cent in Dakar to more than 70 per cent in Accra and Lomé (Diop et al., 1995; Khonde et al., 1997; Bassabi et al., 1997).

In Central Africa, HIV prevalence in 1995 among CSWs was 30 per cent in Kinshasa (Nzila et al., 1996), 18 per cent in Yaounde and 15 per cent in Douala (Tamoufe et al., 1996). For other countries in Central Africa, results are mainly before 1995. In Brazzaville and Pointe Noire (Congo), HIV prevalence among CSWs was 34 per cent and 64 per cent respectively in 1987 (M'Pélé et al., 1987). In Bangui in the Central African Republic, seroprevalence was 17 per cent in 1989 (Lesbordes et al., 1989).

In Abidjan, between 1992 and 1997, all CSWs attending an STD clinic for the first time received counselling and voluntary screening for HIV and other STDs (Diallo et al., 1997) (see Table 1, page 507). Prevalence of STDs in this population declined after 1992 (except for trichomoniasis). In Accra, Ghana, in 1993, prevalence of gonorrhoea and chlamydia were similar to that found in Abidjan at the same time (28 per cent and 24 per cent respectively, n=368) (Khonde et al., 1997). Prevalence of gonorrhoea was higher in Cotonou, Benin: 43 per cent in 1993, and has remained high (31 per cent in 1996) (Baganizi et al., 1997).

Distribution of risk factors for HIV infection

A variety of risk factors have been identified in the literature. They include:

The number and characteristics of partners. There is a considerable range in sexual activity both between women and for the same woman at different times. Thirteen per cent of CSWs in the study by Pickering et al., in 1992 had clients on less than half the days they were monitored. Others had at least one client almost every day. The mean number of clients was 2.6 per day. In a study carried out in the towns of Ondo and Okiptputa in Nigeria, Orubuloye (1993) reported

a higher mean number of clients per day at seven and five respectively. In general, however, in this region of Africa, three clients per day seems about average. A small percentage of CSWs tend to declare a much higher frequency of partners, up to 10 clients per day (Pickering et al., 1992). Pickering et al., noted that there was little relationship between age and number of clients; women aged less than 25 years had on average 1.7 clients per day, compared with 1.6 for women aged 35 years or over. Penile-vaginal contacts are the norm, although anal contacts are occasionally practised. One study carried out in mid-1991 among 300 clients of CSWs in Abidjan found that a "typical" client was an unmarried migrant, workman or trader in his late 20s (Kouamé, 1993). On average these clients had about 4 contacts per week with CSWs. Pickering et al. (1992) found that clients tended to be mobile and to visit prostitutes when away from home. Nearly one quarter of the clients had arrived in the town or village at which they were interviewed within the previous week, and almost half within the previous month. Only 19 per cent were in their natal area.

Unprotected sex. Since the early 1990s, there seems to have been a general increase reported in the use of condoms. This was found in an intervention study carried out in Kinshasa, Zaire, among a cohort of 531 HIV-1 negative sex workers between 1988 and 1991 (Laga et al., 1994). Before the intervention, condoms were used occasionally by 11 per cent of women and no woman reported consistent condom use with all clients. After 3 months, the proportion of women who reported using condoms in all contacts with clients increased to 52 per cent; it was 62 per cent after 12 months, and 68 per cent after 36 months. In parallel, the proportion of women who reported fewer than 2 unprotected sexual contacts during the last week increased from zero at recruitment to 84 per cent after 36 months. The same tendency was found in a study carried out in Abidjan between 1992 and 1997 (Baganizi et al., 1997). The proportion of women who used condoms with every client on the last day increased from 20 per cent in 1992 (n=356) to 58 per cent in 1997 (n=323). Although condom use increased markedly among these women, it rarely exceeded 60 per cent with all clients in the last month. The main obstacle to this seems to be the clients' refusal to use condoms (Pickering et al.; 1992, Laga et al., 1994). Furthermore, it seems that a relatively large percentage of CSWs are prepared to have non-protected sexual contacts with clients for a slightly higher price. For example, 42 per cent of CSWs and bar girls interviewed in Niamey (n=150), reported having non-protected contacts despite their knowledge of the ensuing risks (Habi et al., 1997). In fact condom use with clients seems to vary according to the type of establishment and the characteristics of the clients. A study carried out among 747 clients in Gambia showed that use of condoms varied from 91 per cent of contacts in high class bars to 59 per cent in rural markets. It also decreased from 91 per cent with the first clients of the evening to 37 per cent with the tenth client (Pickering et al., 1993). Clients aged 20-24 were least likely to use condoms while white collar workers, traders and those paying higher prices were more likely to do so.

STD prevalence. Over the same period of increased condom use, a decrease in prevalence of STDs was also observed (Laga et al., 1994). Since presence of STDs may enhance HIV transmission, changing STD prevalence would be expected to have an effect on spread of HIV infection. In a Gambian study, 62 per cent of prostitutes (n=248) reported that they inspected their clients and rejected any that showed signs of disease (Pickering et al., 1992). However, during the study no prostitute was in fact observed to reject a client for this reason. Women reported a variety of preventive methods including douching with disinfectants. It should be noted that there is some evidence that frequent vaginal douching may increase a woman's susceptibility to sexually transmitted agents through modification of vaginal flora (Gresenguet et al., 1997). Studies have suggested that vaginal douching may increase the risk of cervical infections (Stergachis et al., 1993; Hoegsberg et al., 1990) and predispose women to pelvic inflammatory disease (Brown et al.; 1993; Scholes et al., 1993, Wolner Hanssen et al., 1990). Cervical infections in turn have been identified as a risk factor for HIV infection (Laga et al., 1993, Plummer et al., 1991).

Time spent as a CSW. Duration of prostitution has been associated with HIV seropositivity. In a study in Cameroon in 1991, all seropositive CSWs (7 per cent of 168 women) had been practising for more than one year (Kaptue et al., 1991). In Accra, prevalence of HIV among 368 CSWs increased with years worked; However, more than two-thirds were already infected after one year (Khonde et al., 1997). Among those who had worked as a CSW for less than one year, HIV prevalence was 68 per cent (43 of 63 women), for those who had worked between 1 and 3 years 70 per cent (88 of 126), between 3 and 5 years 77 per cent (55 of 71), and for 5 years or more 87 per cent (92 of 106).

Substance abuse. High levels of alcohol and drug consumption have been recorded in some prostitute groups (Pickering et al.; 1992, Anarfi, 1993). Nearly all smoked cigarettes and some admitted to regularly smoking marijuana. A small number mentioned taking harder substances when available.

Knowledge of HIV/AIDS and other STDs

Knowledge about AIDS seems to be relatively widespread among CSWs. In a study from Burkina Faso in 1997, AIDS was reported among the most serious of diseases affecting the CSW community (Sanogo, 1997). The lethal nature of the disease was also widely understood. Sexual contact was cited as the principal mode of transmission of the virus; other routes of transmission were often ignored or wrongly perceived. In general, knowledge of HIV infection (rather than AIDS) and progression from HIV to AIDS were poorly understood. The impact of interventions tends to be gauged by assessing increased knowledge of AIDS and increased use of condoms. CSWs are exposed to prevention messages primarily from radio and television. More personal contact, interaction and exchange in this regard would probably be useful.

REFUGEES

The question of refugees relates to two countries in particular in this region, Liberia and the Democratic Republic of Congo. In 1995, Liberia had the third greatest proportion of its population living in exile as refugees – only Afghanistan and Rwanda had higher proportions. And the Democratic Republic of Congo had the second greatest number of refugees from neighbouring countries, following Iran (HCR, 1995).

Demographic characteristics

Most refugees are women and children. In 1995, between 45 per cent and 56 per cent of refugees from the West African countries of Benin, Côte d'Ivoire, Ghana and Mauritania and from the Central African countries of Cameroon and Central African Republic were women (HCR, 1995). Between 11 per cent and 23 per cent of the others were children aged four or younger. A study of one refugee camp in Ghana reported that women and children made up over 70 per cent of the total population of more than 13,500 persons (Crabbe, 1994). However, the sex composition of refugees depends on the forces that have driven people from their homes. Although most refugee groups are predominantly women who have fled with their children for safety while their husbands remain behind to fight (Gardner et al., 1996), some are predominantly male soldiers. Large differences exist between camps. In Guinea-Bissau, for example, 59 per cent of refugees were children aged 17 or less. In camps in Benin, only 18 per cent were children (United Nations Population Fund, 1995).

Prevalence of HIV and other STDs

For West and Central Africa, no data were found on prevalence of HIV and other STDs among refugees. However, model projections of AIDS cases have been made in an area of many refugees in the north-east region of the Democratic Republic of Congo (ex-Zaire) (Mayala et al., 1996). It was projected that the number of AIDS cases per million in North and South Kivu would increase from 3,200 in 1995 to 9,400 in 1998. Of these, refugees accounted for 1,400 and 5,900 cases respectively. In comparison, a 1992 study in East Africa found an HIV prevalence of 7 per cent among adult male Sudanese refugees in Western Ethiopia (Toole et al., 1997).

Are refugees particularly at risk for HIV infection?

According to Toole et al., (1997), there is no reason to believe that refugees are at higher risk of HIV infection than non-refugee populations. However, recent mass migration of populations has occurred in areas where HIV prevalence rates are high. The contribution of HIV infection to morbidity and mortality among refugees has not been documented, but may be substantial. Reports of violence

against women are not uncommon (HCR, 1995). Women refugees experience domestic beatings, rape, attempted rape, other sexual molestation and threats, and involuntary prostitution. Women may find themselves "forced" into sex in order to gain access to basic needs, such as food. In addition, in some countries (as was seen in the former Yugoslavia) it has been reported that high rates of violence-related trauma have led to an increase in rates of blood transfusions (Toole et al., 1997).

RECOMMENDATIONS FOR RESEARCH

The following recommendations are grouped according to the five groups discussed above.

Male migrant labourers

There is a strong association between migrant labourers and HIV infection in West and Central Africa. However, it is difficult from empirical data to draw clear conclusions about reasons for this association. Certain factors relating to sexual risk behaviour discussed above probably contribute. Clearly this is one area for future research, and in addressing this question it should be noted that differences in destination and context may well introduce differences in risk behaviour.

Migration to mining areas and to large plantations puts the individual at risk for HIV and other STDs. This is based on a relatively simple model derived largely from experiences in southern Africa, and has not yet been substantiated in West and Central Africa where the context is somewhat different. For example, in South Africa the right to migrate for work-related reasons has been restricted exclusively to men (Adepoju, 1988). In West and Central Africa the individual has always had the right to migrate with partners. The model therefore does not seem as simple as described for South Africa and further study to address additional questions may be useful: What are the characteristics of individuals involved in this type of migration? Are they different to those who migrate to urban areas (in terms of age, education, and marital status)? What is the duration of their stay? How regularly do they return? Where do they live? What is their sexual behaviour (in terms of types of partners, frequency of sexual contacts, condom use)? What is their knowledge of HIV/AIDS and other STDs? What health facilities are available at the sites? Are they informed about ways to prevent transmission of HIV and other STDs? Are condoms easily and widely accessible, at affordable prices?

In the case of migration to urban areas, the problem is slightly different. First, migrants are relatively less easily identifiable, although there are often certain high-density immigrant areas. Their behaviour may depend on whether they

live in a family environment. Do those who live in a family structure have a different behaviour to others (i.e., fewer partners, fewer contacts with prostitutes)? Are they better or worse informed about HIV/AIDS? What are the urban migrants' perceptions of prevention campaigns? Are they aware and concerned about HIV/AIDS or do they consider it of little importance? What is the role of the family, the community and the associations in terms of information and prevention? These structures might play a role in disseminating prevention messages.

Because migrants do not only have sexual contacts at their destination, it is important to also focus on their migration routes. How do they travel? Do they make stop-overs on their outward or return journeys? If so, for how long? Where do they stay? Do they have sexual contacts with regular or irregular, and with paid or unpaid, partners?

The sexual behaviour of partners of migrants during their absence is also of interest. It would appear that seasonal migrants often have other partners during their long absences. Do their partners remain celibate during these periods? Few studies have looked at this. In Senegal, using data on reported frequency of sexual contacts of men and women and the number of extramarital partners, Enel and Pison concluded that women married to migrant men, and who remain at home for most of the year, seem only to have intercourse with their husbands (Enel et al., 1992; Pison et al., 1993). But perhaps further studies are required to confirm this, since experience from southern Africa suggests that this may not always be the case. Some authors have noted that prolonged male migration may lead to a break up of the household. The women left behind may be constrained either to migrate to the towns (and perhaps enter into prostitution) or to find a partner to oversee their needs and those of their children (Hunt, 1989; Jochelson et al., 1991).

Truck drivers

Studies tend to be localized; they concern mainly West Africa and in particular the axis linking Burkina Faso and Côte d'Ivoire. No study linking several Central African countries was found. Characteristics of trips, which may have an influence on sexual behaviour, are only rarely reported. These include duration of trip, number and duration of stop-overs, type of lodging. Little is known about this population in terms of information and prevention. Is the price of condoms affordable or does it hinder their use? Are places selling condoms known and accessible, and are condoms always in stock? What is the perception of prevention campaigns? Is knowledge and understanding about HIV/AIDS widespread? Information on partners is limited; are they, for example, predominantly one-off CSW partners or the same partners seen regularly on each trip? Other questions include: How good is knowledge about other STDs? Do they continue to have sexual contacts in the presence of symptomatic STDs,

and if so, do they use condoms? Do they know of and use the health services that line their routes? Do these places fulfil their needs and expectations in terms of information and treatment?

Female itinerant traders

Although we have only limited data, it would appear that female itinerant traders may be at particular risk of HIV/STDs since they sometimes feel constrained to have sexual relations for money. Their knowledge about HIV and other STDs seems relatively good and their education level relatively high; thus they may be receptive to prevention programmes. Two issues may be important to study. The first is prevalence of HIV infection. Although they appear to be a vulnerable population, prevalence levels in this group have rarely been documented. The second is their attitudes to prevention: Do they know about condoms, and are they able to persuade their partners to use them? Do they participate in other potentially high-risk activities? How might prevention efforts be focused?

Commercial sex workers

Commercial sex workers, by their activity and mobility, may contribute substantially to the spread of HIV infection in West and Central Africa. Risk factors are well documented. However, studies among CSWs have generally focused only on those working in the streets and bars. These women reflect only one type of CSW (those who are perhaps most easily accessible). Different classes of prostitutes may have different risks of contracting and transmitting infection. To study this, a census of the different types of CSWs might be drawn up, defined by criteria such as income or type of client. In countries such as Togo where some CSWs operate from brothels, comparisons may be drawn with those working outside the brothels. For different types of CSWs, one might ask the following questions:

- What are their demographic characteristics? Where are they from? In how many places do they practice sex work? How long have they been working in the site under study? What age did they start prostitution and why? How well integrated are they into the CSW environment?

- How many clients have they had in the last 24 hours, last 7 days, last 30 days? What type of contacts do they have with clients? What other partners do they have?

- What is their frequency of condom use with their different partners? What are the main reasons for not using condoms (clients' refusal, difficulties with access to condoms, their high price, problems with their use)?

Other questions include: What is the knowledge of CSWs with respect to STDs? What do they do when they have STD episodes (Do they use condoms more regularly?). How do they treat themselves? Do they have easy access to health services? Do they practice dry sex, and if so with what frequency and with what products? Do they take drugs or drink alcohol? With what frequency and in what quantity? What are the needs of these women in terms of information and prevention? Is the prevalence of HIV and other STDs different in the different groups, and if so what are the factors that explain this?

Refugees

Considerable information is available about public health problems related to refugees (Goma Epidemiology Group, 1995; Siddique et al., 1995; Toole et al., 1997; Van Damme, 1995). However, little of it concerns HIV which is not of highest priority in such populations; more pressing problems include the supply of water and food and the prevention of epidemics of diseases, especially those linked to conditions of hygiene. However, once a certain stability has been achieved, HIV surveillance, KAP surveys and prevention programmes should take higher priority. They might be developed with the following questions in mind:

- What is the prevalence of HIV and other STDs among refugees? How does it compare with similar populations (demographically) in their country/region of origin? Among refugees, what is the extent of populations with high-risk behaviours (e.g., CSWs, soldiers, and truck drivers)?

- What is the extent of knowledge of AIDS symptoms, HIV transmission and methods of prevention? What are the attitudes towards condom use? Are condoms available?

- Are blood testing procedures available and used? Are blood donations screened? Are clean needles and sterilization equipment available? Are appropriate blood screening, STD testing, and STD management policies in place?

Conclusion

To undertake empirical studies in migrant populations is a difficult task, both technically and financially. However, when initiating studies it would be beneficial to consider the following points.

First, comparative studies between populations are particularly informative. Studies might be carried out at the national or international level. In the context of migration in West or Central Africa, a regional approach would be most useful. This has already been initiated, for example, with the creation in 1994

and 1995 of the West African Initiative (IOA, 1997). One of its priorities is migration and HIV/AIDS. Projects of action-based research are in progress in five West African countries (Burkina Faso, Côte d'Ivoire, Mali, Niger and Senegal). Initial results should be available towards the end of 1998 (personal communication). A project called "AIDS Prevention along the Migration Routes of West Africa" (PSAMAO) is underway in Côte d'Ivoire and Burkina Faso (Denakpo et al., 1997). The project is in part supported by Family Health International (FHI/AIDSCAP), and by local groups such as the Association of African Women against AIDS (AFAFSI) and the Union of Truck Drivers from Burkina Faso in the Fight against AIDS (URBLS). This project focuses on truck drivers and CSWs in 10 different sites. We have no information on any comparable studies underway in the Central African region.

Other points to be borne in mind include:

- Studies carried out at the regional level also need to be complemented with localized studies of how mobile people organize their sex lives in everyday life.

- Although studies associating clinical aspects with epidemiological and behavioural components are costly, difficult to implement, and require multidisciplinary teams, they do provide essential information.

- Information on the relative size of different groups in different regions would be invaluable in guiding priorities for prevention efforts.

- Research on HIV/AIDS has been undertaken by many organizations, institutes, associations. It is extensive and varied but often overlapping and perhaps would benefit from increased coordination.

And a final point that cannot be overemphasized: today's research into migration and HIV/AIDS must be action-orientated.

RECOMMENDATIONS FOR PREVENTION

Our review of the literature not only suggests areas for future research but also shows that some practical recommendations can be made for preventing the spread of HIV/AIDS among migrant populations in West and Central Africa.

WHEN AND WHERE?

The timing of intervention strategies must be conceived so as to spread information widely among mobile populations. This includes before departure,

along the communication routes, at the final destination and at the time of their return journey.

Before leaving. Male migrants should be informed before departure of the risk they take by having non-protected sexual contacts during their absence. This is perhaps the most effective strategy and concerns principally two groups of migrants: truck drivers and seasonal migrant labourers. Among truck drivers, the issues might be addressed by their companies, through the unions, or by external structures such as the French Association of Volunteers for Progress in Burkina Faso (Hardy, 1993). Among migrant labourers, who are in general from rural areas, one would usually only be able to access those from areas with high rates of emigration. If prevention takes place at the village level, the whole community may be concerned, and issues of stigmatization may be avoided.

Along transport routes. Two main recommendations are made. First, prevention messages should be conveyed through IEC programmes (stickers, posters, T-shirts, etc.). Second, condoms should be made easily and widely available. A number of interventions of this type have already been carried out, notably along the routes Niamey-Ouagadougou-Abidjan, Bamako-Abidjan, and Dakar-Bamako (IOA, 1997). Generally they have been carried out at truck stops and train stations, i.e., places often used for rest during stop overs. However, evaluating the impact of this type of intervention is very difficult even though it may be most appropriate for certain population groups (such as truck drivers or traders) for whom the highway is a familiar environment. However, it may be less appropriate for migrant labourers, and thus different initiatives may be considered. For example, CARE Niger prepared a small information leaflet on STD symptoms and treatment and distributed it at road stops along the Tahoua highway connecting Niger and Abidjan (Mahazou et al., 1997). Written in both Hausa and French, it provided information both on STD symptoms and on the places where STD testing and treatment could be obtained cheaply. This action is attractive for two main reasons. First, its impact is relatively easy to evaluate (for example, by assessing changes in number of visits to health centres). Second, it makes use of existing medical infrastructure.

At destination. Interventions at place of destination depend principally on the politics of immigration. For countries with high levels of immigration, like Côte d'Ivoire, the task is enormous because of the geographic spread of migrants, the diversity of languages and the cost. Thus it is important for those in charge of prevention campaigns to work through individuals in the migrant communities, who would then be able to better work within the wider migrant populations. Migrants often join associations made up of other migrants from the same or a neighbouring home area soon after their arrival (Painter, 1992). One of the roles of the associations is to help members in emergency situations (e.g., to buy medication in case of illness, for repatriation and for funerals). These associa-

tions also help link the migrant community with local government officials in the host country and with their communities back home. If such groups were to benefit from adequate support, they might play an important role in HIV/AIDS prevention within migrant communities. They should be considered equal partners in this process. A primary objective would be to provide frontline information to newcomers. If given resources, they may also undertake other tasks such as developing and translating prevention messages, organization of discussions and meetings, distribution of condoms and IEC materials, etc. In the case of development of new mining sites or plantations, the associations may contribute to setting up health facilities, distributing prevention material, and assisting with visits from family members and partners (by finding appropriate accommodation, for example).

For the return. An intervention at time of return to the home community should be relatively easy since the returning migrant is easily identifiable. Interventions generally have two objectives: (i) to reduce the possibility of transmission of infection by a returning infected migrant, and (ii) to use the returning migrant as a means to educate the wider population. However, these strategies can lead to stigmatization of migrants. Those returning from Côte d'Ivoire have, in some communities, been the object of suspicion and "observed closely" by their colleagues and friends (Taverne, 1996). This approach also tends to reinforce the idea that (only) those who migrate are exposed to infection and disease.

Conclusion

Each of the strategies has its advantages and limitations. However, since they focus on the different stages of the migration process, they should be complementary. In fact, prevention may be best served by improving each type of strategy as well as reinforcing the complementary nature of the strategies. This requires good collaboration between countries, particularly with respect to information and prevention campaigns, and to the avoidance of stigmatization of any group of individuals.

WHAT?

Prevention aims to reduce the risk of contracting and transmitting HIV infection. It tends to be approached in two ways. First, to reduce individual risk through sexual behaviour change to reduce exposure to infection. Prevention focuses on delaying sexual debut, sexual abstinence, decreasing the number of casual sexual partners, and maintaining faithful monogamous or culturally acceptable stable polygamous relationships. Second, to reduce the probability of HIV transmission. Action is focused principally on the control of STDs and increased use of condoms. Control of STDs is achieved by improved quality of

diagnosis and treatment of STDs, increased access to and use of STD services and drugs to treat STDs, and targeted education to STD patients in order to decrease recurrent infections.

Many control programmes have targeted "core groups" such as those covered in this report (e.g., CSWs, truck drivers, and migrants). Such interventions in high-risk groups have proved successful for specific groups and in reducing potential for further spread of infection in the wider population. Even so, infection levels outside these traditional high risk core groups have risen to high levels in many parts of Sub-Saharan Africa. Many women appear to be at risk of infection not so much by their own risk behaviour, but also by that of their partners. As well as the need to continue to focus on CSWs and other core groups, prevention efforts must also increasingly focus on all young adults (where incidence rates are high).

HOW?

A range of media

The media used include radio, television, newspapers and other publicity measures (stickers, posters, bill-boards, etc.). In terms of coverage, radio seems to offer the best opportunities in these two regions. However, certain issues need to be considered.

- Messages about HIV/STDs and other health-related problems should ideally be given in several languages. Cultural and language problems often hinder the full integration of migrants. Closer collaboration between national programmes both from countries of emigration and immigration would help the process of integration, and facilitate access to migrant groups.

- More interactive programmes – "talk shows" or "phone-in shows" in popular language - might be developed. The value of such programmes results from individuals sharing their experiences.

- Personalities (such as sports stars, artists, and politicians) might be encouraged to speak openly about their infection. Hearing about HIV infection from known and respected individuals often shocks the public into facing reality.

- The role of the press may be somewhat limited by relatively low levels of literacy, as well as cost and difficulties of distribution. Messages through posters, stickers and billboards may be most effective if they are graphic, short and simple.

- Messages conveyed by mobile theatre groups and by popular musicians through their work can be highly effective, since they often have a young captive audience.

Community approaches

Unlike use of the mass media, community approaches to prevention are developed within each population group. One of the more developed prevention strategies is education through peer group members. This involves training a number of CSWs, migrants or truck drivers, for example, who are then responsible for informing other members of their group. Training is generally focused around knowledge of routes of transmission and methods of STD prevention. Regular follow up of the activities of peer group educators is undertaken by local supervisors. Further spread of information to the wider population is often carried out through educational events and the distribution of IEC material. Peer educators also distribute or sell condoms, and are informed of health services and structures which offer cheap and accessible medical services. The impact of information and prevention strategies among some groups has been considerable, leading to increased condom use and decreased STD incidence and prevalence. However, the highly mobile nature of this population creates problems of follow up as well as for counselling, testing and treatment.

Another example of a community approach is interventions aimed at improving CSW's access to other income generating activities. The development of a project to create a source of revenue other than from prostitution often requires a large investment from the individual, which is perhaps especially difficult among those most mobile. Structures or organizations which extend across towns and countries and which help women to be integrated into new networks would be an important development. The owners of bars, night clubs and hotels within which CSWs operate can and must play a leading role in this. Women working independently prove the hardest to access, and in this regard fieldwork by women's associations is particularly important. In Togo, for example, the association "Force of Action for the well-being of mother and child" (FAMME) has tried to fill this role (Decosas et al., 1995). Strategies include direct interventions such as the development of a small clinic stocked with essential drugs and staffed by volunteer physicians and midwives, and education on health, family planning and AIDS prevention. Indirect measures have also been useful, for example, by providing technical and logistical support to initiatives introduced by CSWs themselves (Sodji et al., 1997).

Conclusion

Whatever the prevention strategy, measures to evaluate its impact should also be taken. Although we have principally discussed only direct actions which

may be taken to improve prevention efforts, those which act indirectly may be equally or more effective, but are potentially even harder to implement. Economic necessity often drives migrants to seek work away from their home communities and drives women to supplement their income through prostitution. By taking into account the context within which people live, one not only targets the symptoms of the problem, but the problem itself.

NOTES

1. REMUAO includes Burkina Faso, Guinea, Cote d'Ivoire, Mali, Mauritania, Niger, and Senegal but not Nigeria, which is the most populous country in the region.
2. The data for this review were sought from several databases including Medline, Popline, and the France-based databases of the National Institute of Demographic Studies (INED), Centre for Population and Development (CEPED) and the Inter-University Library of Medicine. The websites of several international agencies and organizations were also consulted, including those of the Centre for International Cooperation on Health and Development, CARE International, the United States Agency for International Development (USAID), the United Nations Joint Programme on AIDS (UNAIDS), the U.S. Bureau of the Census, and the United Nations Development Programmes (UNDP). Specific contributions have also been made by the head of the "West African Initiative in response to the HIV/AIDS epidemic", representatives of CARE in countries in West and Central Africa, and those working with The Project on the Migration Routes of West Africa (PSAMAO). Many of these contacts were facilitated by the attendance of Nathalie Lydiʃ at the Tenth International Conference on AIDS and STD in Africa (Abidjan, December 7-11, 1997).
3. Note that the term for a citizen of Niger is "Nigerien", while citizens of Nigeria are "Nigerian".

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TABLE 1

STDs DIAGNOSED IN SEX WORKERS ATTENDING A CLINIC IN ABIDJAN

Year	1992	1993	1994	1995	1996	1997
Number of CSWs	356	778	607	832	916	323
% genital ulcers	21	17	12	8	4	5
% syphilis	40	38	37	27	18	18
% N. gonorrhoea	33	29	26	22	15	15
% chlamydia trachomatis	26	24	26	5	6	5
% trichomoniasis	5	4	4	5	6	5

Source: Diallo, et al., 1997.

AFRIQUE CENTRALE ET DE L'OUEST

En Afrique centrale et de l'Ouest, les pays qui ont des taux d'émigration ou d'immigration importants tendent également à accuser des taux élevés d'infection par le virus de l'immunodéficience humaine (VIH). Il y a cependant une exception, le Sénégal, qui démontre qu'une grande mobilité ne va pas nécessairement de pair avec la propagation rapide et extensive de l'infection par le VIH.

Cinq groupes de population différents font l'objet du présent article, soit parce qu'ils sont numériquement importants, soit parce que leur rôle dans la propagation du VIH et des MST est réputé important. Il s'agit des travailleurs migrants, des chauffeurs de poids lourds, des commerçants itinérants, des professionnels du sexe et des réfugiés.

Il est difficile d'évaluer le nombre des *travailleurs migrants*, mais ils sont monnaie courante en Afrique de l'Ouest. Les grandes voies de migration sont celles qui vont vers la côte, trois pays côtiers constituant d'ailleurs les principaux centres d'immigration : le Sénégal, le Nigeria et la Côte d'Ivoire. En Afrique centrale, les grandes routes de migration sont celles qui relient le Cameroun, le Congo, le Gabon et la République démocratique du Congo (ex-Zaïre). Le rôle des *chauffeurs de poids lourds* dans la propagation du VIH et des MST est largement attesté en Afrique de l'Est, mais moins en Afrique centrale et de l'Ouest. Le *commerce itinérant* est souvent une activité économique majeure chez les femmes. Les marchandes itinérantes constituent un groupe particulièrement exposé au risque d'infection par le VIH ou d'autres MST dans la mesure où leurs activités commerciales supposent fréquemment des déplacements sur de longues distances, loin de leur famille, et au cours desquels elles peuvent être amenées à se prostituer pour compléter leurs gains. En Afrique centrale et de l'Ouest, les *prostituées* constituent un type particulier de migrant, un grand nombre d'entre elles se déplaçant d'un pays à l'autre. Les prostituées du Sénégal et de la Guinée-Bissau travaillent en Gambie, celles du Togo en Côte d'Ivoire, et celles du Ghana au Bénin, au Sénégal et en Côte d'Ivoire. Enfin, le continent a été témoin de mouvements de *réfugiés* à grande échelle au cours des dernières années.

Cette étude révèle la relation complexe qui unit les migrations et l'infection par le VIH. Il est évident que tous les migrants ne sont pas exposés aux mêmes risques d'infection et ne contribuent donc pas de manière égale à la propagation de la maladie. Toutefois, peu d'analyses ont été faites à ce jour concernant l'influence des différents types de migration (que l'on peut caractériser par la durée, la fréquence des visites de retour, les conditions de vie, etc.) sur la propagation du sida. Le caractère occasionnellement manifeste du lien entre la migration et la séropositivité a conduit plusieurs analystes à estimer que les travailleurs migrants s'adonnaient sans doute davantage à des activités sexuelles

avec de multiples partenaires, surtout lorsqu'ils sont loin de chez eux. Peu d'études, cependant, confirment directement cette hypothèse.

Les stratégies pratiques de lutte contre la propagation du VIH/SIDA parmi les populations de migrants en Afrique centrale et de l'Ouest doivent viser à offrir davantage d'informations aux migrants avant leur départ, le long des voies de communication, aux lieux de destination finale et lors de leur retour. Le degré de concentration à chacun de ces stades dépendra des caractéristiques de la population. Ainsi, les hommes devraient être informés avant leur départ du risque qu'ils encourent en ayant des contacts sexuels non protégés durant leur absence. C'est peut-être la stratégie la plus efficace pour les chauffeurs de poids lourds et les travailleurs migrants saisonniers. Quelle que soit la stratégie appliquée, toutefois, une vraie collaboration devra s'instaurer entre les pays, notamment sur le plan des campagnes d'information et de prévention, et aussi dans la perspective d'éviter la stigmatisation d'un groupe donné de personnes.

ÁFRICA OCCIDENTAL Y CENTRAL

En África occidental y central, los países con elevadas tasas de emigración e inmigración tienden a tener porcentajes más elevados de personas infectadas por el VIH. Sin embargo, hay una excepción, Senegal, que demuestra que los altos niveles de movilidad y migración no producen una propagación rápida y extensa de la infección del VIH.

En este artículo se consideran cinco grupos de población diferentes, ya sea por las cantidades que son considerables o porque se sabe que desempeñan una función importante en la propagación del VIH y de las enfermedades sexualmente transmisibles. Se trata de trabajadores migrantes, conductores de camiones, comerciantes itinerantes o trabajadores del mercado del sexo, además de refugiados.

Es difícil evaluar las cantidades de *trabajadores migrantes* pero se trata de algo corriente en África occidental. Las principales rutas migratorias conducen hacia la costa, donde tres países costeros constituyen los principales centros de inmigración: Senegal, Nigeria y Côte d'Ivoire. En África Central, los más importantes son Camerún, el Congo, Gabón y la República Democrática del Congo (antiguamente el Zaire). El papel que desempeñan los *conductores de camiones* en la propagación del VIH o de las enfermedades sexualmente transmisibles ha sido bien documentado en África oriental, pero menos en África occidental y central. El *comercio itinerante e*s a menudo una de las principales actividades económicas de las mujeres. Las mujeres comerciantes itinerantes pueden ser especialmente vulnerables a la infección del VIH o de otras enfermedades sexualmente transmisibles puesto que sus actividades comerciales implican viajes de larga distancia sin sus familias y la venta de servicios sexuales para complementar sus otras actividades comerciales. En África occidental y central, las *prostitutas* son un tipo particular de migrantes, puesto que muchas de ellas realizan viajes a nivel internacional. Las prostitutas de Senegal y Guinea Bissau trabajan en Gambia, aquéllas del Togo en Côte d'Ivoire, y las que provienen de Ghana trabajan en Benin, Senegal y Côte d'Ivoire. Finalmente, en los últimos años el continente ha sido testigo de movimientos en gran escala de *refugiados*.

Las investigaciones señalan que existe una relación compleja entre la migración y la infección por el VIH. Obviamente no todos los migrantes corren el mismo riesgo de infección y por ello no contribuyen de igual manera a la propagación de esta enfermedad. No obstante, poco se sabe hasta la fecha sobre las influencias de los distintos tipos de migración (que pueden caracterizarse por la duración, frecuencia de las visitas de retorno, condiciones de vida, etc.) sobre la propagación de la infección del VIH. La fuerte asociación entre la migración y la seropositividad del VIH ha dado a entender a varios autores que los trabajadores migrantes podrían mantener relaciones sexuales con diversas

parejas, particularmente cuando están lejos de su entorno familiar. No obstante, pocos estudios verifican esta hipótesis directamente.

Las estrategias practicas para prevenir la propagación del VIH/SIDA entre las poblaciones migrantes en África occidental y central deben tener por objeto ofrecer información previa a la partida durante los itinerarios comunicantes, en el destino final y en el momento en que emprenden viaje de retorno. El grado de concentración en cada etapa dependerá de las características de la población. Por ejemplo, los trabajadores migrantes deben estar informados antes de su partida sobre el riesgo que corren al mantener relaciones sexuales no protegidas durante su viaje. Esta sería probablemente la estrategia más efectiva para los conductores de camiones y trabajadores migrantes temporeros. Sin embargo, sea cual fuera la estrategia utilizada será necesaria una sólida colaboración entre países, particularmente en lo que atañe a las campañas de información y prevención y a fin de evitar que se estigmatice a cualquier grupo de personas.