

INTERNATIONAL PERSPECTIVE

The Prevalence of Human Immunodeficiency Virus among Drug-Dependent Patients in Jeddah, Saudi Arabia

JOSEPH NJOH, MD, FRCP (Edin)* AND SAMEER ZIMMO, MD†

*Department of Medicine, Al Amal Hospital, P.O. Box 6826, Jeddah 21452, Saudi Arabia, and †Department of Dermatology, King Abdul Aziz University Hospital, Jeddah, Saudi Arabia

Abstract—*This study was carried out to determine the prevalence of HIV among drug-dependent patients in Jeddah. Between January 1 1995 and May 31 1996, all the patients admitted into the Al Amal Hospital for drug dependence were screened for HIV by Enzyme Immunoassay (EIA) and confirmed by Western blot. Those positive by the two tests were questioned about exposure to the risk factors for HIV infection and examined for clinical evidence of Acquired Immunodeficiency Syndrome (AIDS). Of 2628 admitted, 5 tested positive by EIA but only 4 were confirmed by Western blot, giving an overall prevalence of 0.15%. Three of the four HIV carriers used the intravenous route for drug use and the calculated prevalence for 2102 intravenous drug users was 0.14%. None of the patients showed any clinical evidence of AIDS. In view of the known preference by drug-dependent patients in Jeddah for the parenteral route and their sharing of needles and syringes, recommendations are made to prevent the spread of HIV through this group and into the community. © 1997 Elsevier Science Inc.*

Keywords—prevalence; human immunodeficiency virus; parenteral; drug-dependence.

INTRODUCTION

THERE IS A PAUCITY of published information on HIV infection in Saudi Arabia. Since the first cases were reported in 1986, only a few hospital-based reports have been published (Harfi & Fakhry 1986; Barri et al., 1991; Bernvil et al., 1991; El-Hazmi & Ramia, 1989; Ellis et al., 1993). Reports show that there are drug users in this country and that the drug users in Jeddah prefer and use mostly the parenteral (intravenous) route (Al-Umran, Mahgoub, & Qurashi, 1993; Osman, 1992; Njoh, 1995).

Although drug-dependent patients are a universally-recognised high risk group for HIV infection, particu-

larly those who use the parenteral route, no study has been done to determine the prevalence of HIV infection among drug-dependent patients in this country. In contrast, several reports of the prevalence of HIV infection among intravenous drug users (IDU) in other countries have been published. This study is to determine the prevalence of HIV infection among drug-dependent Saudi nationals.

PATIENTS AND METHODS

This study was carried out at the Al Amal Hospital, Jeddah—a rehabilitation hospital for drug-dependent males. Only Saudi males who met the *DSM-IV* criteria for drug dependence (American Psychiatric Association, 1994) were offered admission. Those who accepted the offer of admission were admitted and tested routinely by third generation qualitative Enzyme Immunoassay (EIA) (Abbott Diagnostics Division, North Chicago, IL, USA) for the simultaneous detection of antibodies to HIV type 1

We are grateful to Dr. S. Barney, Al Amal Hospital's Medical Director, for his encouragement and support and to the Saudi Ministry of Health for granting the permission to carry out this study.

Requests for reprints should be addressed to Joseph Njoh, MD, Department of Medicine, Al Amal Hospital, P.O. Box 6826, Jeddah 21452, Saudi Arabia.

and/or type 2 after consents were obtained. Serum samples, which were repeatably reactive, were further tested by a confirmatory test, Western blot. Only those samples that were positive by both EIA and Western blot methods were considered true positive. All the positive patients were questioned about exposure to risk factors for HIV infection and examined for clinical evidence of Acquired Immunodeficiency Syndrome (AIDS). All the tests were performed between the 1st of January 1995 and the 31st of May 1996 (17 months).

RESULTS

Of the 2628 serum samples tested, 5 were positive by EIA, but only 4 were confirmed by Western blot (Table 1). This gives an overall HIV prevalence of 0.15% (1.5 persons per 1000).

DISCUSSION

Most data on HIV in Saudi Arabia are hospital based and are unlikely to be accurate reflections of HIV prevalence in the community at large. Nevertheless, they inform us of what may be happening to sections of the population. The prevalence of HIV in 64000 units of blood collected from Riyadh, the Saudi capital, was 0.009% (0.005% for Saudi nationals) (Bernvil et al., 1991). Among 385 multi-transfused Saudis with thalassemia/sickle cell disease, the prevalence was 1.3% (El-Hazmi et al., 1989). In this study, the overall prevalence among drug-dependent patients is 0.15%.

An overwhelming majority of drug-dependent patients in Jeddah prefer and use the parenteral route (Osman, 1992). A previous report on drug-dependent Saudi nationals in this hospital actually showed that at least 80% of them used the parenteral route (Njoh, 1995). Using this percentage, the calculated number of IDUs in this study is 2101 and the prevalence of HIV among them is also low (0.14%). This is in contrast to the high serum prevalence of hepatitis B surface antigen (HBsAg) among Saudi IDUs (18.5%) (Njoh, 1995). The low prev-

alence of HIV infection in this and other high-risk groups may be a reflection of the low HIV prevalence in this deeply religious and highly conservative society. All this suggests that Saudi Arabia may be in the pre-epidemic stage. Seroprevalence studies in the general population is needed to establish the true situation in the community.

The relatively high prevalence of serum HBsAg among Saudi IDUs has been attributed to the sharing of needles and syringes. Therefore, the low prevalence of HIV infection cannot be due to the absence of the sharing of accessories. The sharing of needles and syringes continues even though preliminary results of an ongoing study on our patients show that 81.2% of them know about AIDS and that it is caused by an infective agent and two-thirds are aware that this agent can be spread through the sharing of accessories. Needles and syringes are cheap and can be obtained easily over the counter in drugstores in this city.

To prevent HIV spread among these patients and into the community, the following recommendations are made:

1. An intensive public awareness programme that draws attention to areas of the religion and culture that discourage sexual intercourse before marriage, extra-marital sex, and the use of drugs and emphasize the link between these acts and sexually transmitted and other diseases.
2. To continue the Ministry of Health's public education programme which highlights the modes of HIV transmission and the consequences of HIV infection.

REFERENCES

- Al-Umran, K., Mahgoub, O.M., & Qurashi, N.Y. (1993). Volatile substance abuse among school students of eastern Saudi Arabia. *Annals of Saudi Medicine*, **13**, 520-524.
- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Barri, Y.M., Ellis, M.E., Al-Furayh, O., Qunibi, W., Taher, S., Al-Sabban, E., & Bernvil, S.E. (1991). Renal transplantation associated with HIV infection: A Saudi Arabian experience and review of the literature. *Clinical Transplant*, **5**, 233-240.
- Bernvil, S.S., Sheth, K., Ellis, M., Harfi, H., Halim, M., Kariem, A., & Andrews, V. (1991). HIV antibody screening in a Saudi Arabian blood donor population: 5 years experience. *Vox Sang*, **61**, 71-73.
- El-Hazmi, M.A.F., & Ramia, S. (1989). Frequencies of hepatitis B, delta and human multitransfused Saudi patients virus markers in multitransfused Saudi patients with thalassemia and sickle cell disease. *Journal of Tropical Medicine and Hygiene*, **92**, 1-5.
- Ellis, M.E., Halim, M.A., Frayha, H., Bernvil, S., Sheth, K., & Al-Abdul-Jabbar, J.D. (1993). HIV infection in Saudi Arabia: Occurrence, pattern of disease and future implications. *Saudi Medical Journal*, **14**, 325-333.
- Harfi, H.A., & Fakhry, B.M. (1986). Acquired Immunodeficiency Syndrome in Saudi Arabia. *Journal of the American Medical Association*, **255**, 383-384.
- Njoh, J. (1995). The prevalence of hepatitis B surface antigen among drug-dependent patients in Jeddah, Saudi Arabia. *East African Medical Journal*, **72**, 55-56.
- Osman, A.A. (1992). Substance abuse among patients attending a psychiatric hospital in Jeddah: A descriptive study. *Annals of Saudi Medicine*, **12**, 289-293.

TABLE 1
The Four Confirmed HIV-Positive Patients

Name (Initials)	Age (yrs)	Risk Factor	Features of AIDS
FM	30	Intravenous	None
AS	25	Intravenous	—
AA	31	Multiple sexual partners (MSP)	—
MM	33	Intravenous + MSP	—

None of the four HIV carriers had received any blood transfusion or blood products.

80.0% of total drug-dependent patients (2102) may be IDUs and of these, only three patients were HIV positive. The HIV prevalence among IDUs is 0.14% (1.4 per 1,000). Multiple Sexual Partners: heterosexual only.