

Sero-Prevalence of HIV: Six Years' Experience at Shaikh Zayed Hospital, Lahore

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Jamila Iqbal (Department of Microbiology and National Health Research Complex, Lahore.)
N. Rehan (Pakistan Medical Research Council, Shaikh Zayed Postgraduate Medical Institute, Lahore.)

Abstract

Sero-prevalence of HIV was tested among 16,170 individuals. They included 215 patients with sexually transmitted diseases (STD), 77 I/V drug users, 21 commercial sex workers, 987 patients on haemodialysis, 119 subjects referred for HIV testing, 12,482 voluntary blood donors, 360 ante-natal attenders, 73 tuberculosis patients, 674 Pakistanis travelling abroad and 1162 persons who had received multiple blood transfusions. Ten persons were seropositive (0.06%). All of them came from the 119 subjects, suspected to be suffering from AIDS. The predominant mode of transmission was heterosexual (50%), blood transfusion (30%), homosexual (10%) and vertical (10%). All cases acquired infection outside the country. Comparisons have been made with other national studies (JPMA 46:255, 1996).

Introduction

According to the official statistics of National AIDS Program of Pakistan, 1.35 million individuals have been screened for HIV till 31st March, 1995. Majority of them are blood donors and those falling in high risk categories. Out of them, 869 are MW positive and 51 full blown cases of AIDS, representing a seropositivity of 0.07%. Till the end of 1994, seven reports have been published on the prevalence of HIV/AIDS in the country¹⁻⁷. Five of these reports have come from Karachi¹⁻⁵, one from Peshawar⁶ and one from Rawalpindi⁷. The prevalence of MW is known to have regional differences⁸. The present study is the first report of a mixed population from Lahore.

Subjects and Methods

The study is based on the records of all those individuals, who were tested for HIV/AIDS at the Department of Microbiology, Shaikh Zayed Hospital, Lahore between 1987 and 1994. This department is a WHO focal point for AIDS. During the study period, 16,170 individuals were screened; 2,581 belonging to high risk and 13,589 to low risk categories. They included voluntary blood donors (12,482), patients who were multi transfused (1162), those on haemodialysis (987), travelling abroad (674), ante-natal attenders (360), STD patients (215), IJV drug users (77), TB patients (73), commercial sex workers (21) and 119 clinically suspected cases referred for HIV screening. Patients with STD, I/V drug users, commercial sex workers, those who received multitransfusions, those on haemodialysis and those clinically suspected to have HIV were grouped as "High Risk Category".

All tests performed were based on detection of HIV antibodies in serum samples. HIV-antibodies were demonstrated by commercially available kits. All samples collected during first five years of study (1987-91) were initially tested by ELISA (Welcozyme HIV). During this period, all reactive samples were sent to the referral centre of National AIDS Control Program at National Institute of Health for the confirmation by Western Blot Technique. Thus, first six cases diagnosed till 1991 were confirmed by Western Blot Technique. Samples tested during 1992 and onwards were initially screened by agglutination technique (Serodia - HIV). Positive sera were confirmed by two different ELISA

Techniques (Abbott Recombinant HIV and weilcozyme HIV) as recommended by WHO.

Results

Out of 16,170 individuals screened, only 10 were positive for HIV on Western Blots ELISA, representing a sero positivity of 0.06%. The sero positivity was 0.38% among 2,581 high risk individuals and nil among 13,589 low risk individuals. HIV positivity among various categories of individuals is shown in Table I.

Table I. HIV positivity among various categories of screened individuals.

Categories tested	No. Tested	No. Positive	Sero-positivity (%)
I. High Risk Categories			
STD patients	215	-	-
I/V Drug users	77	-	-
Commercial sex workers	21	-	-
Multitransfused	1162	-	-
Clinically suspected	119	10	8.4
Haemodialysis	987	-	-
Total	2,581	10	0.39
II. Low Risk Categories			
Blood donors	12,482	-	-
Antenatal attenders	360	-	-
TB patients	73	-	-
Pakistanis travelling abroad	674	-	-
Total	13,589	-	-
Grand Total	16,170	10	0.06

The positive cases were found only among those individuals, who were clinically suspected to be suffering from AIDS. None of STD patients, IN drug users, commercial sex workers, patients on haemodialysis or those with history of multiple transfusions tested positive for HIV One positive case was a foreign national from Ghana, while the rest were Pakistanis and one had dual nationality.

Table II. Socio-Demographic data of HIV positive cases.

Age (Years)	Sex	Nationality	Residence	Transmission		Present status
				Mode	Place	
35	Male	Pakistani	Quetta	Not known	U.A.E.	Not traceable
45	Female	Pakistani	Lahore	Blood transfusion	U.A.E.	Died
40	Female	Pakistani	Lahore	Blood Transfusion	Saudi Arabia	Died
42	Male	Pakistani	Faisalabad	Not known	U.A.E.	Not traceable
40	Male	Pakistani	Lahore	Blood Transfusion	U.A.E.	Not traceable
39	Male	British	Gujrat	Homosexual	U.K.	Left for Europe
36	Male	Pakistani	D.G. Khan	Heterosexual	U.A.E.	Died
03	Female	Pakistani	D.G. Khan	Vertical	Mother got infection at U.A.E.	Died
30	Male	Pakistani	Gujranwala	Heterosexual?	U.A.E.	Not traceable
26	Male	Ghanian	Lahore	Heterosexual	Ghana	Deported

Table II describes the socio-demographic characteristics, mode of transmission and the present status of 10 positive cases. The most common mode of transmission was heterosexual (50%) followed by blood transfusion (30%), homosexual (10%) and vertical transmission (10%). In all cases, except one with vertical transmission, infection was acquired outside the country, mostly in Middle East. The person at S.No.7 was the father of child at S.No. 8. (Table III).

Table III. Comparison of present study with data from other parts of Pakistan.

Author	Place	Year	Population		HIV positivity	
			Type	No.	No.	(%)
Mujeeb and Hashmi	Karachi	1988	Mixed	1,363	2	(0.15)
Khanani et al	Karachi	1990	Mixed	413	3	(0.73)
Mujeeb et al	Karachi	1991	Blood donors	1,665	0	(0.00)
Raziq et al	Peshawar	1993	Mixed	34,353	35	(0.10)
Tariq et al	Rawalpindi	1993	Mixed	54,170	30	(0.06)
Mujeeb and Hafiz	Karachi	1993	High risk	844	8	(0.95)
			Low risk	1932	0	(0.00)
Kayani et al	Karachi	1994	Mixed	47,609	51	(0.11)
Iqbal and Rehan	Lahore	1995	Mixed	16,171	11	(0.07)

A detailed scrutiny of their history revealed that his wife got multiple transfusions during their stay in UAE. She became sero positive and the husband acquired the disease from her and the daughter was vertically infected.

Discussion

The sero positivity rate in our study (0.06%) agrees closely with the national statistics about HIV positivity (0.07%). A comparison with our major studies is shown in Table III. Although no national survey of AIDS has so far been undertaken, yet many regional studies are available¹⁻⁷. The maximum data has emerged from Karachi Metropolis. According to a latest report published in 1994, Kayani et al¹ screened 47,609 individuals and found a positivity rate of 0.07% by Western Blot. They were not able to find any indigenous case of AIDS. The largest group of positive patients was represented by foreigners/expatriates, individuals with frequent travel history and recipients of multiple transfusions. The common denominator in all these cases is the fact that HIV infection was acquired outside Pakistan

by different modes during their long or short stay abroad. Two other large series were reported from Peshawar and Rawalpindi^{2,3}. In a cross-sectional study, Raziq et al⁶ screened 34,353 individuals in Peshawar. These included blood donors, recipients of multiple transfusions, STD patients, tuberculous patients, pregnant women and Pakistanis coming from abroad. Among them, 35 persons were HIV positive (0.1%). The mode of transmission in 31 was heterosexual and in 2 homosexual, in one through blood transfusion abroad and in another through I/V drug abuse. Thirty-three of them (94.3%) got the infection from abroad and the remaining two females (5.7%) acquired it from their husbands. Another major study by Tariq et al⁷ 'from Armed Forces institute of Pathology, Rawalpindi, deals with 54,170 individuals screened since 1989. These included 48,235 blood donors, 3,369 persons proceeding abroad, 561 patients of venereal diseases, 350 lymphoma cases, 21 deportees from the UAE, 460 clinically suspect and cases of AIDS, 735 persons who were worried that they may not have HIV infection and 439 family members of HIV positive cases. Out of them, 30 persons (0.05%) were found positive for HIV. Of these 30, only three acquired the disease in Pakistan, 20 had acquired HIV infection during their stay in the Gulf States one in Saudi Arabia, one in Greece, two in France, while three cases had it from South East Asia.

A study by Mujeeb and Hafeez⁴ conducted at Karachi in 1993, revealed HIV positivity of 0.29% among 2776 individuals. Sero positivity was 0.95% among 844 subjects in high risk group, whereas, they did not find any HIV positive case among 1932 low risk individuals. An earlier study by Mujeeb and Hashmi³ conducted in 1988 found that among 1363 blood donors, only 2 cases were HIV positive (0.15%). Both were married females aged 30 and 45 years who gave a history of obtaining multiple transfusions. In another study Mujeeb and his associates⁴ studied 1655 blood donors during 1991. There was no positive case of HIV amongst this population.

Khanani et al⁵ reported 3 confirmed cases of HIV infection in a group of 413 screened individuals from Karachi in 1990. Two were foreign nationals of Tanzania and Uganda and third individual was a Pakistani national residing in Saudi Arabia, who had received multiple transfusions following a car accident in 1981.

A review of various studies reveals that heterosexual transmission is the commonest mode of transmission. Out of 35 sero positive cases reported by Raziq et al⁶, 88.6% and in the series of Tariq et al⁷, 56.6% cases were heterosexual. In our study also, the most common mode of transmission among HIV positive cases, was heterosexual transmission. Commercial sex workers have been blamed as a potent source of AIDS. In Pakistan, there has been no study of sufficient size in commercial sex workers. According to a survey conducted by National AIDS Program between October and December, 1993, out of 594 female commercial sex workers of Lahore, eight tested positive for HIV representing 1.3% positivity rate (Personal Communication). Data so far available shows that although the situation is not grave, yet an epidemic is knocking on the door. Policy maker social scientists and preventive health specialists owe to the nation a clearly defined, scientifically sound and culturally appropriate policy to combat this menace.

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