ORIGINAL ARTICLE

RISK FACTORS AMONG HIV POSITIVE/AIDS PATIENTS: A PROSPECTIVE STUDY AT A TERTIARY CARE REFERRAL CENTRE

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Background: HIV/AIDS is a global problem, South Asia and Africa bearing the maximum burden. The incidence is reported to be rising in Pakistan. It is important to document the prevalence of various risk factors in our population so that appropriate measures could be taken for preventing emergence of new cases. Objectives were to identify the possible etiological factors/high risk behaviour in cases diagnosed as HIV/AIDS presenting at a tertiary care referral centre. **Methods:** Prospective observational case series carried out over a one year period at HIV/AIDS referral centre at Allama Iqbal Medical College Lahore. Five hundred patients were included who were positive for HIV on screening devices and then confirmed by ELISA. All these patients were referrals from Punjab AIDS control programme (PACP). A detailed history was taken on a pre-designed Performa specially targeted to identify the known risk factors for HIV infection. **Results:** Five hundred HIV positive subjects diagnosed by screening device and confirmed on ELISA were included in the present study. Three hundred and fourteen (63%) were males and 186 (37%) were females. Mean age was 35±12 years. Most prevalent risk factor among these patients was sexual transmission followed by intravenous drug abuse, injections from substandard health facilities, and transmission from infected spouse. **Conclusion:** HIV/AIDS is a preventable disease if the risk factors are avoided. Community awareness for unsafe homo and heterosexual practices and discouraging visits to non qualified health practitioners should be the top priority by PACP apart from controlling the IDUs menace.

Keywords: HIV, AIDS, Pakistan, Punjab, STD, epidemic, commercial sex worker, quackery, IDUs

INTRODUCTION

Human immune deficiency virus (HIV), a retrovirus, has a special affinity for CD-4 helper T-cells. Infection by virus results in depletion of these cells in the host causing severe immune suppression. HIV infection is rampant in developing and poor nations and is also encountered in the developed nations. Around 42 million people are living with this infection world wide and there are estimated 5 million infections each year.[1] Ninety-five percent of infection is in the developing nations with Africa alone carrying 50% of the HIV burden.[1] However over the past decade most rapid increase in HIV infection has been in South East Asian countries. The contributing causative factors vary in different parts of the world depending on literacy rate and the prevailing socioeconomic conditions. In Pakistan the estimated HIV/AIDS burden is still low.[2–5] According to UNAIDS estimates 0.1% of the adult population in Pakistan is infected with HIV.[6] However without sustained and extensive efforts for prevention and treating the already effected persons there exists a substantial risk of having a near epidemic of HIV infection in the country. Over the past few years small epidemics are already on record from different parts of the country in at risk population. In 2004 a survey was conducted amongst injecting Drug Users (IDUs) in Karachi, where over 20% of those tested were found infected.[6] HIV is transmitted primarily via sexual route, contaminated blood transfusions, contaminated syringes and as vertical transmission from infected mother to child.[2,7] Prevention of HIV infection, primarily through safe sex, safe transfused blood and avoidance of re-use of contaminated syringes is a key strategy to control the disease. There is no known cure for HIV infection led acquired immune deficiency syndrome (AIDS). Antiretroviral treatment however can slow the course of the disease reducing the risk of death and complications from the disease prevention of infection should be the goal therefore in all at risk communities. Knowledge of the prevailing risk factors and magnitude of high risk behaviour in the community is of paramount importance for developing strategies to control the incidence of infection. The present study was designed to survey the diagnosed cases of HIV/AIDS for such prevailing factors.

MATERIAL AND METHODS

This prospective case series was conducted over a period of one year at the Punjab AIDS Control Programme (PACP) referral centre Allama Iqbal Medical College Lahore. The suspected cases are referred from PACP or various NGOs routed through PACP. All such referred adult cases belonging to both sexes who were diagnosed as having HIV with a screening test and subsequently confirmed by ELISA were included in the present study. A detailed history was taken from each patient by the principal investigator according to the pre-designed Performa. Special emphasis was given to explore the aetiological factors for acquiring HIV infection, high risk behaviour, vulnerable profession socioeconomic status and literacy level. The vulnerable profession enquired about included professional sex workers, long distance truck drivers, fashion designers and persons belonging to

showbiz. Jobless individuals were also included in vulnerable category. The high risk behaviour included, IV drug abuse, homosexuality, heterosexual with multiple partners or the professional sex workers, trans-genders, history of blood transfusions, history of major or minor surgery at substandard health facility or with quacks, and positive HIV status of spouse. For socioeconomic categories of high, medium and poor classes an arbitrary monthly/per annum income was taken into consideration. Upper middle class with annual income of PKR >2,000,000, while low socioeconomic group had annual income of PKR <50,000 and the middle class had income in between the two extremes.

Data were analysed using SPSS-17. Mean and SD were determined for quantitative data. Frequency/percentages were determined for qualitative variables.

RESULTS

The study included 500 cases that were HIV positive diagnosed by screening device and confirmed on ELISA. Out of 500 cases, 314 (63%) were male and 186 (37%) were female. Age distribution of study population is depicted in Table-1. The mean age of the patients was 35±12 years. Thirty-eight (7%) patients submitted a history of travelling abroad; 23 to Saudi Arabia, 8 to Dubai, 1 to Thailand, 1 to West Africa and 1 to South Africa. The duration of stay ranged between 2–18 years. One hundred and ninety-five (39%) cases belonged to middle class, 59 (12%) to upper middle class and 246 (49%) could be categorised into socio-economically poor class.

Evaluating the high risk behaviour in these patients, 33 patients had vulnerable profession. Four (12%) out of 33 patients were professional sex workers, 1 (3%) was involved in show business, 1 (3%) in fashion designing, 13 (39.4%) were truck drivers and 14 (42.4%) were jobless. Two hundred and forty-three (49%) were heterosexual/homosexual, and 10 patients (2%) provided with definite history of blood transfusion. There was history of surgery major/minor in 20 (4%) patients (Table-2). There were 2 (0.4%) health care workers, 81 (16%) were I/V drug abusers, 84 (17%) attributed getting the HIV infection from infected needles and 56 (11%) patients were spouse of an HIV positive patient. No definite causative factor was known could be found in 32 (6%) patients. The break-up of vulnerable professions in the study population is depicted in Table-3.

Table-1: Age distribution of study population (n=500)

Age	Patients	Percentage
<10 year	7	1.4
11–20 year	12	2.4
21–30 year	206	41.2
31–40 year	172	34.4
41–50 year	66	13.2
51–60 year	37	7.4

Table-2: Relative frequency percentage of different high risk behaviours

High risk behaviour	Frequency	Percentage
Vulnerable profession	34	7.0
History of surgery	20	4.0
Heterosexual/homosexual	243	49.0
History of blood transfusion	10	2.0
Health care workers	2	0.4
I/V drug abusers	81	16.0
Infection from infected needles	84	17.0
Spouse of HIV positive patient	56	11.0
No causative factor known	32	6.0

Table-3: Relative frequency percentage of different vulnerable professions

Vulnerable profession (n=33)	Frequency	Percentage
Professional sex workers	4	12.0
Showbiz	1	3.0
Fashion designing	1	3.0
Truck drivers	13	39.4
Jobless	14	42.4

DISCUSSION

After a late start Pakistan is now heading towards a rapidly escalating incidence of HIV infection. All provinces of the country are facing the menace. Punjab is the largest province with <10 million population. Here incidence is found to be significantly high in certain localities amounting to almost an epidemic. The well documented causative factors and high risk behaviours are operative in these areas. Several previous studies have also tried to explore this aspect.[8] Sexual high risk behaviour, injection drug abuse, poverty, economic instability, low HIV awareness, illiteracy, and labour migration abroad are the identifiable prevailing factors.[9,10] The HIV prevalence is increasing among injection drug users (IDUs) and their sexual contacts. Male and transgender sex workers (MSWs) are surprisingly also a contributing factor.[8] For these risk factors, Pakistan appears to be following the 'Asian Epidemic Model'.[6] On the other hand, majority of the patients attending HIV clinics are expatriated migrant workers and their spouses.[8]

In our study a male predominance was observed. This is in accordance with several other series reported from across the globe. This gender difference can partly be attributed to predominantly male intravenous drug abusers. Another important factor could be young males going to countries abroad without families for their jobs and acquiring the infection during their stay.[8,11] In our study mean age of HIV infection was 30 years. Studies evaluating the demographics of HIV/AIDS patients from various Asian and African countries have also reported a high prevalence in young people.[12,13] Several factors operate for this age group vulnerability. Young people are vulnerable to influence by peers, unemployment frustrations, and exposure to addictive drugs. In addition, some groups of young men are especially vulnerable due to the sexual services they provide, notably in the transport sector.[7,13] Both men and women from low socioeconomic strata may be forced into the sex industry for income.[13]

In the present study a significant risk factor identified was intravenous drug abusers. This cohort constitutes a prominent reservoir in almost all countries of the world. In USA IDUs are reported to account for 16%[13] of HIV cases in adult population whereas the incidence is reported as 2.49% from Brazil.[1] In Karachi, a 2004 survey of sexually transmitted infections among high risk groups reported that >1 in 5 IDUs was infected with HIV.[9] This represented the first documented epidemic of HIV in well-defined vulnerable population in Pakistan. Since then, HIV prevalence has increasingly being reported among IDUs in the 12 cities that have been surveyed, with the national average being around 20% (13–30%). IDUs often inject in groups of 5–10 or more and syringe sharing varies from 3–65% with younger IDUs more likely to share.[14] The usual injection frequency is reported as 2–3 injections daily but is higher with heroin use.[9,10] According to National AIDS surveillance data almost half (46%) of the IDUs reported sexual activity with regular non-commercial female partners in the past 6 months and only 10% accepted the use of condoms.[11] Many (27%) of IDUs reported commercial sex with an FSW (female sex worker) and 13% with an MSW (male sex worker) in the last 6 months.[11] Street based injectors in large groups has likely contributed to the rapid rise in HIV prevalence among IDUs. Their sex with commercial and non-commercial partners can indirectly spread the infection to the general population.[10]

In our study commercial sex workers were not encountered since all our cases are referrals presenting and screened at the PACP clinics. However it is an established aetiological factor for acquiring and spreading HIV infection. Commercial sex is prevalent in major cities of Pakistan and also on truck routes. Behavioural and mapping studies in three large cities of Pakistan found a CSW population of 100,000 who had limited understanding of safe sexual practices.[11] Furthermore, sex workers often lack the power to negotiate safe sex or seek treatment for STIs. Recent findings indicate that female sex workers (FSWs) and their clients report low condom use.[11] Less than half the FSWs in Lahore and only about a quarter in Karachi had used condoms with their last regular client.[14]

Contaminated blood transfusion is a major underlying cause for transmission of HIV.[14] Forty percent of the 1.5 million annual blood transfusions in our country are not screened for HIV. About 20% of the blood transfused comes from professional donors.[15] The study conducted by Surveillance AIDS centre in Karachi on professional blood donor found that 1%were infected with HIV.[15,16]

In our study population we encountered a large number of HIV positive subjects belonging to a certain village and Tehsil of the province. Despite questioning in depth no definite high risk behaviour or known aetiological factors could be identified in these subjects. However interestingly all the affected inhabitants had received therapeutic injections from local health providers. This strongly raises concerns for the much prevalent custom of visits to nonqualified health care providers/quacks by our illiterate population where non-sterile procedures are commonly practiced.

CONCLUSION

The present study has surveyed the HIV positive population in the province of Punjab for prevailing risk factors. Sexual route of transmission was the commonest cause followed by injection use from non-qualified healthcare providers. A certain percentage of male subjects had acquired infection during their stay in Middle-East countries.

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