

SOCIODEMOGRAPHIC PROFILE AND PSYCHIATRIC MORBIDITY IN HIV-SEROPOSITIVE DEFENCE PERSONNEL

P.C. MADAN, N. SINGH & G.R. GOLECHHA

ABSTRACT

The study aims to find out the sociodemographic profile of HIV-seropositive defence personnel and type of psychiatric morbidity in them. 172 HIV-seropositive subjects in CDC stage II, III and IV were compared with 40-seronegative controls. Driver trade was found to be more susceptible because of high mobility facilitating access to red light areas. Heterosexual promiscuous activity was found to be predominant mode of HIV-infection transmission (92.44%). In 72.09% cases HIV-infection was a chance detection which signifies that if an epidemiological survey is conducted many more cases will come to light. Overall psychiatric morbidity was found in 50% of study groups compared to 10% in controls.

Break-up of diagnostic categories as per ICD-10 criteria were depressive episode 22.9%, anxiety disorder 9.88%, alcohol dependence syndrome 6.39%, delirium 1.16% and cognitive impairment 10.47%. The study highlights that HIV-epidemic and its associated psychiatric morbidity is largely a behavioural problem. Hence it calls for an active participation of mental health professionals to counteract the challenge posed by it.

Key words : HIV infection , defence personnel, CDC, psychiatric morbidity

Epidemic of HIV-infection continues to spread all over the world. It has already reached alarming proportion in India. Bollinger et al. (1995) have reported that there are 1.6 million HIV-positive cases in India, although WHO estimates are much higher. The physical, psychological, social and economic implication of the epidemic are such that it is being equated with a ticking time bomb.

The first Indian soldier suffering from HIV-infection was documented in 1991 (Kher et al., 1991). Since then more and more cases of HIV-infection have been diagnosed. As in the case of other potentially fatal disorders, HIV-infection can be accompanied by significant psychiatric morbidity (Catalan, 1990) including an increased risk of suicide (Marzuk, 1991) made worse by the social stigmatization

of those infected. Most of the earlier studies on psychiatric aspects of HIV-infection are based on the work done in the west on homosexuals/bisexuals and main line drug addicts. This study has been conducted on defence personnel who are sociodemographically a unique population. They constitute a high risk group because of prolonged separation from the family and high mobility within the country and abroad.

The study aims to investigate the socio-demographic profile, mode of transmission and psychiatric morbidity of HIV-seropositive defence personnel.

MATERIAL AND METHOD

The study was conducted from august 1994 to september 1996 in a large service

PSYCHIATRIC MORBIDITY IN HIV SEROPOSITIVE DEFENCE PERSONNEL

hospital where HIV-seropositive personnel are routinely admitted for clinical evaluation and periodic review. HIV-seronegative controls were obtained from the personnel who were found HIV-negative at the time of blood donation. All the subjects were administered a semistructured interview schedule, PGI-Health Questionnaire (Wig et al., 1973) and modified Mini Mental Status Examination (MMSE). Psychiatric evaluation and counselling was done by two experienced psychiatrists and a clinical psychologist. The diagnosis was made according to ICD-10 criteria (WHO, 1992).

PGI-Health Questionnaire score more than 10 was indicative of significant psychopathology. A score of less than 20 on modified Mini Mental Status Examination was considered indicative of cognitive impairment. All the HIV-positive subjects were given post test counselling and controls were given risk reduction counselling as per their status group. The available data on 172 HIV-seropositive and 40 HIV-seronegative controls has been statistically analysed.

RESULTS

The sociodemographic pattern in table 1 of the HIV-seropositive and HIV-seronegative subjects show that majority of them were young males in the age group of 20-40 years and were unmarried. They were predominantly from rural background, had received elementary education and were from nuclear families. Number of drivers over-represented in the HIV-seropositive group as compared to controls in (25% Vs 2.5%, table 2).

Mode of detection of HIV-infection was (table 3) 27.90% were found on STD surveillance, 27.90% during blood donation and 44.20% on hospitalization. Working at the probable source of HIV-infection (table 4), heterosexual promiscuous activity was seen as the commonest high risk behaviour (92.40%), while homosexual contact (2.30%), syringe sharing during drug abuse (1.20%) and blood transfusion (1.7%) were found in a small number of cases.

TABLE 1
SOCIODEMOGRAPHIC DATA

	HIV+ve (N=172)	HIV-ve (N=40)
Age (in yrs.)		
20-30	103 (59.9)	26 (65.0)
31-40	63 (36.6)	12 (30.0)
41-50	6 (03.5)	2 (5.0)
Marital status		
Married	41 (23.8)	9 (22.5)
Unmarried	130 (75.6)	31 (77.5)
Widower	1 (0.6)	0-
Type of family		
Nuclear	124 (72.1)	30 (75.0)
Joint	48 (27.9)	10 (25.0)
Domicile		
Rural	162 (94.2)	39 (97.5)
Urban	10 (5.8)	1 (2.5)
Education		
Upto VIII class	74 (43.0)	16 (40.0)
Upto XII class	90 (52.3)	22 (55.0)
Upto Graduation	8 (4.6)	2 (5.0)

Figures in parenthesis indicate percentage

TABLE 2
TRADE WISE DISTRIBUTION

	HIV+ve (N=172)	HIV-ve (N=40)
Combatants	63 (39.5)	24 (60.0)
Drivers	43 (25.0)	1 (2.5)
Technical	42 (24.4)	10 (25.0)
Others	19 (11.0)	5 (12.5)

Figures in parenthesis indicate percentage

$\chi^2=11.11$. d.f.=3, $p<.01$

Overall psychiatric morbidity was found in 50% of the HIV-seropositive as compared to 10% in controls (table 5). Depressive episode was the predominant psychiatric comorbidity (22.10%), while anxiety disorder (9.9%), alco-

TABLE 3
MODE OF DETECTION (N=172)

Mode	
STD surveillance	48 (27.9%)
Blood donation	48 (27.9%)
Hospitalization	76 (44.2%)

TABLE 4
MODE OF TRANSMISSION (N=172)

Mode	
Heterosexual promiscuous	159 (92.4%)
Homosexual contacts	4 (2.3%)
Intravenous drug addicts	2 (1.2%)
Blood transfusion	3 (1.7%)
Indeterminate	4 (2.3%)

TABLE 5
TYPE OF PSYCHIATRIC MORBIDITY

Disgnosis	HIV+ve (N=172)	HIV-ve (N=40)
Depressive episode	38 (22.1)	2 (5.0)
Anxiety disorder	17 (9.9)	1 (2.5)
Alcohol dependence syndrome	11 (6.4)	1 (2.5)
Delirium	2 (1.2)	0 (-)
Cognitive impairment	18 (10.5)	0 (-)
Psychiatric morbidity	86 (50.0)	4 (10.0)

Figures in parenthesis indicate percentage
 $\chi^2 = 21.25$, d.f.=1, $p < .001$

TABLE 6
CDC STAGES OF HIV-INFECTION VS DEPRESSIVE EPISODE

CDC Stage (N=172)	Depressive episode (N=38)
II 136	24 (17.7)
III 18	9 (50.0)
IV 18	5 (27.8)

TABLE 7
PGI HEALTH QUESTIONNAIRE SCORE

Score	HIV+ve (N=172)	HIV-ve (N=40)
Upto 10	73 (42.4)	33 (82.5)
>10	99 (57.6)	7 (17.5)

Figures in parenthesis indicate percentage

TABLE 8
MODIFIED MINI MENTAL STATUS EXAMINATION SCORE

Score	HIV+ve (N=172)	HIV-ve (N=40)
< 20	18 (10.5)	- -
20 & above	154 (89.5)	40 (100)

Figures in parenthesis indicate percentage

hol dependence syndrome (6.19%), delirium (1.20%) and cognitive impairment (10.5%) were also present. It is observed from table 6 that 17.67% in CDC stage II, CDC stage III and 27.8% in stage IV suffered from depressive episode.

DISCUSSION

Armed forces comprises of fighting fit young men who counteract the enemy attack

from outside or insurgency within the country. Younger age group of subjects is explained by the fact that the age range of enrollment and retirement is 20-40 years. This is the age of highest sexual activity which combined with the stress of prolonged separation from the family and high mobility make them a high risk group.

Overrepresentation of sample from rural background not only conforms to the national rural/urban ratio but also indicates lack of other employment opportunities in the rural areas and armed forces have a system of reaching to the grass root level for recruitment. High prevalence of HIV-infection in driver trade is in agreement with observation of NACO (1995). It could be because of their higher mobility which interferes with adequate disciplinary control and facilitates easy access to red-light areas.

It is a practice in the Armed forces to carry out tests for HIV-infection in all those having sexually transmitted diseases (STD). It is evident from the study that only 27.9% have been detected on STD surveillance. In rest of the cases, it was a chance detection i.e. 27.9% on blood donation and 44.2% on hospitalization for related/unrelated condition. This observation has a serious implication in the sense that if organized epidemiological survey is conducted much more cases of HIV-infection will come to light. Simultaneously it is creating a scare in the voluntary blood donors least their HIV status may be found out. In such a situation, defence personnel may refuse to come forward for blood donation in future.

Heterosexual promiscuous activity is the most common probable mode of transmission of HIV-infection. This is in agreement with the findings of Maj et al. (1994) for the western developed countries and also with the figures of National AIDS Control Organization (NACO, 1995) in India. Intravenous drug abuse and syringe sharing is negligible in the armed forces because of the highly disciplined lifestyle. Two cases of HIV-infection through drug abuse had taken intravenous drugs prior to joining service.

The study revealed significantly higher

prevalence of psychiatric morbidity in HIV-seropositive subjects as compared to HIV-seronegative controls (50% Vs 10%). Depressive episode was the commonest diagnosis and the prevalence was much higher (22.19%) than the figures reported by Maj et al. (1994). The difference can be explained on the basis that our study sample comprised of hospitalized HIV-seropositive subjects including CDC stage II, III, IV of HIV-infection. Maj. (1996) expressed that higher prevalence of depression is expected in HIV-seropositive subjects due to social rejection. Hospitalization of HIV-infection cases in CDC stage II, which is asymptomatic carrier state along with CDC stage III and IV makes them aware of their poor prognosis leading to pessimism and hopelessness. Perry et al. (1984) reported depression in 40% of hospitalized AIDS patients, while we found depression in 27.78% in a similar group i.e. hospitalized cases of CDC stage IV of HIV-infection.

Higher prevalence of alcohol dependence syndrome in the study group was compared to controls. (6.39% Vs 2.5%) indicate that alcohol intake could impair the judgement and lead to impulsive behaviour and increase the risk of HIV acquisition or transmission. Higher rates of Anxiety disorder could be explained on the basis of excessive concern about the physical, social and economic prospects resulting from the altered status as the knowledge of the HIV-infection is taken by some individuals as a death-sentence.

In conclusion, we wish to say that serving defence personnel, being in the age group of highest sexual activity combined with prolonged separation from family and increased mobility, constitute a high risk group for HIV-infection. Sexual behaviour plays a major role in the acquisition or transmission of HIV-infection. Until some effective cure is found out intervention at this level is the most important measure available to control the HIV-epidemic. Hence mental health professionals need to equip themselves to deal with this new challenge so as to enable them to favourably modify

high risk behaviour of those at risk and to provide clinical support for the considerably increased psychiatric comorbidity.

REFERENCES

- Bollinger, R.C., Tripathy, S.P. & Quinn, T.C. (1995) The Human Immunodeficiency Virus in India. Current Magnitude and future projections. *Medicine*, 74-97.
- Catalan, J. (1990a) Psychiatric manifestation of HIV disease. *Bailliere's Clinical Gastroenterology*, 4, 547-564.
- Kher, S.K., Machave, Y.V., Rajagopal, A., Pawha, V.K. & Raghunath, D. (1991) HIV infection. Beginning of an Epidemic. *Medical Journal Armed Forces India*, 47, 266-269.
- Maj, M., Janssen, R., Starace, F., Zaudig, M., Satz, P., Sughondhairom, B., Luabeya, M., Riedal, R., Ndeteri, D., Calil, H.M., Bing, E.G., Louis, St. M. & Sartorius, N. (1994) WHO Neuropsychiatric AIDS study. Cross-Sectional Phase I, Study Design and Psychiatric Findings. *Archives of General Psychiatry*, 2, 51-61.
- Maj, M. (1996) Depressive syndrome and symptoms in subjects with Human Immunodeficiency Virus (HIV) infection. *British Journal of Psychiatry*, 168 (Suppl 30)117-122.
- Marzuk, P. (1991) Suicidal behaviour and HIV illnesses. *International Review of Psychiatry*, 3, 365-371.
- NACO (1995) National aids control organisation, Ministry of Health and Family Welfare, Government of India Monthly update on HIV infection in India. 30/11/95.
- Perry, S.W., Tross, S. (1984) Psychiatric problems of AIDS in patients at the New York Hospital: Preliminary Report. *Public Health Psychiatry*, 9, 200-205.
- World Health Organisation (1992) The ICD-10 Classification of Mental and Behavioural Disorders : Clinical Description and Diagnostic Guidelines, Geneva : WHO.
- Wig, N.N., & Verma, S.K. (1973) PGI Health Questionnaire N-1 : A simple Neuroticism scale in India. *Indian Journal of Psychiatry*, 15, 80-88.

P.C. MADAN* M.D. (Psychiat.), Head. N. SINGH, M. Phil. (Neuropsychology), SRF, & G.R. GOLECHHA¹, M.D., D.P.M., Department of Neuropsychiatry, Defence Institute of Psychological Research, DIPAS Complex, Lucknow Road, Timarpur, Delhi 110054, ¹ 300, Sector -28, Noida-201 303.

*Correspondence