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Original Research Article

Socio-Demographic Profile of HIV Sero-Positive Individuals in a Metropolitan City

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Abstract

This cross-sectional descriptive study was conducted at a health care facility in a metropolitan city to determine the socio-demographic profile of HIV sero-positive individuals. Written informed consent was obtained from 338 HIV sero-positive persons (173 females; 51.19%; 165 males; 48.81%), aged 18-60 years. Each participant was interviewed and socio-demographic profile was recorded on a pre-validated formatted questionnaire. The mean age of female participants was 35.94 ± 8.07 years (95% CI: 34.63–37.15 years), while that for males was 39.27 ± 8.67 years (95% CI: 37.95–40.59 years), exhibiting highly significant (p=0.0003) gender difference. Most participants belonged to middle and lower middle socio-economic classes. The gender differences were significant among the college educated (p=0.049), the unemployed (p=0.0009), semi-skilled workers (p<0.0001) and skilled workers (p<0.0001). Likewise, significant gender differences were found among participants who were single (p=0.002), married (p=0.007) and those who were widowed/separated/divorced (p<0.0001). Focused intervention for the HIV negative spouses will reduce the possibility of female sero-positivity and mother-to-child transmission of HIV. The findings of this study reveal that HIV-related interventions need to be focused on socio-demographic sub-groups, such as, housewives, semi-skilled and skilled workers and males with higher literacy levels.

Keywords: HIV, Sero-positive, Socio-demographic profile.

INTRODUCTION

The HIV epidemic in India is a low-level epidemic in the general population with heterogeneous distribution and varying inter- and intra-state burden. Once infected, a person remains infected for life. HIV affects multiple systems and organs. The transmission is predominantly driven by commercial sex work and non-commercial promiscuous heterosexual intercourse, with substantial transmission among men who have sex with men (MSM) and intravenous drug users (IDU). While female sex workers (FSW), MSM and IDUs constitute the core of the epidemic, male clients of FSWs and spouses and partners of MSM and IDUs comprise the "bridge population". Indications are that India has a considerable population of MSM though reliable data are not available. Spouses of those with high-risk behaviour are at a greater risk of infection, even if they have refrained from high-risk behaviour [1].

The estimated number of HIV sero-positive persons in India, in 2017, ranged between 15.90 and 28.39 lakhs and about 42% were females. The estimated adult (15-49 years) HIV prevalence was 0.22%. Mizoram had the highest adult HIV prevalence, followed by Manipur and Nagaland. In Telangana, Andhra Pradesh, Karnataka, Goa, Maharashtra and Delhi, the adult HIV prevalence was higher than the national average. 15% of India's total HIV sero-positive persons lived in Maharashtra [2].

Even before the first HIV sero-positive case was detected in India, the Indian Council of Medical Research launched HIV Surveillance to seek out HIV infection. HIV Sentinel Surveillance (HSS) was initiated [3] and nodal and regional institutes and stringent laboratory systems were established [4]. HIV prevalence data generated through HSS have been used to trail the magnitude of the epidemic in diverse sub-populations and for impact assessment of response to the epidemic [5, 6]. The focused interventions helped reverse the HIV epidemic in India. Though the HIV epidemic in India has shown signs of decline, level of epidemic continues to be sustained among MSM with increasing trends among IDU in Manipur, Nagaland, Delhi and Punjab and migrant populations [1].

Demographic and psychosocial factors curb the quality of life of HIV sero-positive persons. Post-counselling, HIV sero-positive individuals tend to shun high-risk behaviour, which is beneficial to the society by limiting the transmission of the virus [7]. Since most HIV infected persons belong to lower socio-economic class and economically productive age group [8], the economic burden of the family and community is amplified. Deaths of young adults adversely leads to dwindling of skilled manpower and young children are orphaned, which impacts the overall development of the country. The epidemiology and clinical presentation of the disease exhibits intra- and inter-country variations. Thus for planning focussed interventions, it is necessary to grasp the locality-wise socio-demographical pattern of the disease. The objective of the present study was to determine the socio-demographic profile of HIV sero-positive individuals in a metropolitan locality.

Materials and Methods

This cross-sectional descriptive study was conducted at a health care facility in a metropolitan city after obtaining approval from the Institutional Ethics Committee. Simple random sampling (lottery method) was used to select the prospective participants who were HIV sero-positive persons, of either gender, aged 18-60 years. After they were assured about the confidentiality of data, written informed consent was obtained from willing participants. Each participant was interviewed and socio-demographic profile was recorded on a pre-validated formatted proforma.

The data were statistically analyzed using EpiInfo Version 7.0 (public domain software package from the Centers for Disease Control and Prevention, Atlanta, GA, USA). Discrete data were presented as percentages and continuous data as Mean and Standard Deviation (SD). 95% Confidence interval (CI) was stated as: [Mean-(1.96)*Standard Error)] - [Mean+(1.96)*Standard Error)]. The standard error of difference between two means and standard error of difference between two proportions were calculated. Statistical significance was established at $p<0.05$.

Results and Discussion

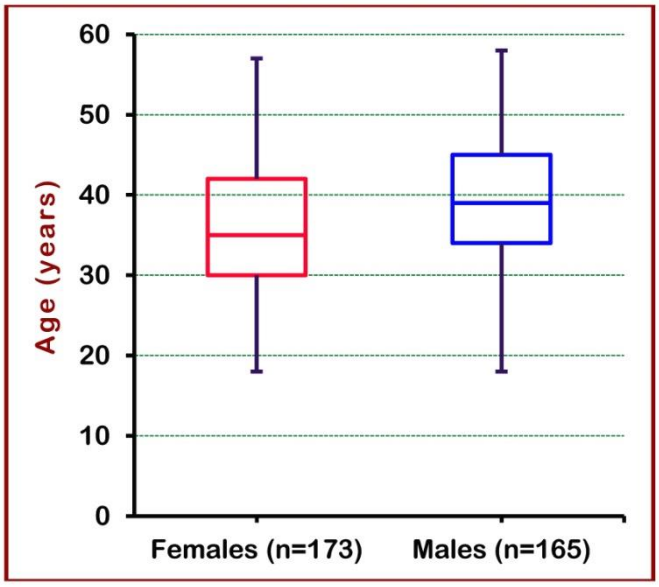

Fig-1: Boxplot of age and gender

Age

A total of 338 HIV sero-positive persons (Females = 173, 51.19%; Males = 165, 48.81%) participated in the study. Their mean age was 37.51 ± 8.34 years (95% CI: 36.63 – 38.40 years). Though the minimum age was 18 years for participants of either gender, the maximum, third quartile, median and first quartile of age (in years) was higher for males as compared to that of their female counterparts (Fig.1). The mean age of female participants was 35.94 ± 8.07 years (95% CI: 34.63 – 37.15 years), while that for males was 39.27 ± 8.67 years (95% CI: 37.95 – 40.59 years), exhibiting highly significant (Z=3.609; p=0.0003) gender difference. In the present study, 40.8% of participants were between 35 and 45 years of age and the mean age was 37.51 ± 8.34 years. This finding is similar to the mean age reported by various researchers from – North India (30.18 years) [9], Chhattisgarh, India (42.6 years) [10], New Delhi, India (32.71 years) [11], Chennai, India (35.7 years) [12], Indonesia (26.56 yrs) [13], Iran (35.4 years) [14], Spain (44.3 years) [15], Nigeria (34.8 years) [16], Nigeria (38.1 years) [17] and Vietnam (35.4 years) [18]. Another Indian study [19] has reported that 84% of the study population were in the age group of 21-40 years. A Karnataka-based study [20] found that 52.25% of HIV positive persons belonged to the age group of 21-30 years while 28.12% were in the age group of 31-40

years. Thus, HIV sero-positivity is more prevalent in the sexually active and economically productive population, thus resulting in economic loss to the countries where they reside.

Gender

In the present study, out of 338 participants, 51.19% were women while 48.81% were men. This marginal difference may be ascribed to relatively higher female participation in the study. Studies from Chennai [12], Mysore district [21], and Puducherry [22] have reported near-equal numbers of men and women in their study population. In contrast, studies from Nigeria [16, 17] and Uganda [23] have stated that majority of their study population comprised female participants. Conversely, studies from Iran [14], Vietnam [18], Indonesia [13], Spain [15] and The Netherlands [24] have reported male preponderance among their study participants.

Religion

Hindus comprised 74.56%, Muslims 17.46%, Buddhists 3.55%, Christians 2.37% and others 2.06%. The religion-wise distribution correlates with the findings reported by a Karnataka-based study [20].

Socio-Economic Status

As per B. G. Prasad classification, the participants in the present study belonged to the following socio-economic classes – Upper (2.96%), Upper Middle (21.01%), Middle (32.54%), Lower Middle (35.21%), and Lower (8.28%). The findings of the present study correlate with that of other Indian studies [20, 21] and is at variance with results reported by a study conducted in Vietnam [18]. This difference may be due to inter-country variations in the socio-economic status.

Table-1: Gender distribution of literacy, occupation and marital status

Parameter		Females (n=173)	Males (n=165)	Z value #	p value
Educational status	Illiterate	21.39%	14.55%	1.647	0.099
	Primary	26.59%	26.67%	0.016	0.987
	Secondary	35.26%	33.33%	0.373	0.709
	College	16.76%	25.45%	1.965	0.049*
Occupation	Unemployed	01.16%	09.09%	3.333	0.0009*
	Unskilled	19.65%	21.21%	0.355	0.722
	Semi-skilled	04.05%	26.06%	5.900	<0.0001*
	Skilled	09.83%	43.64%	7.555	<0.0001*
	Housewife	65.32%	...	...	...
Marital Status	Single	05.20%	15.15%	3.050	0.002*
	Married	65.32%	78.18%	2.657	0.007*
	Other †	29.48%	06.67%	5.741	<0.0001*

Z= Standard error of difference between two proportions

† Other = Widowed, separated or divorced; *Significant

Educational Status

Nearly one-fourth of the HIV sero-positive males had completed college education and the gender difference in the college-educated group was significant (p=0.049). (Table-1) The educational distribution was similar to that reported by a study conducted in Spain [15]. Contrasting results have been obtained by studies conducted in North India [9], Chennai [25], Puducherry [22], Indonesia [13] and Iran [14]. A Chennai-based study [12] has reported higher affective (psychological) domain scores among more educated participants while a study from Brazil [26] found that HIV positive individuals with higher educational levels reported better quality of life.

Occupation

In the present study, a majority of the participants were employed and the gender differences among the unemployed, semi-skilled and skilled workers were statistically significant (Table-1). In contrast, a higher percentage of unemployment among females has been reported by other Indian studies [19, 21], as well as by studies from Spain [15], Indonesia [13] and Iran [14].

Marital Status

In the present study, the gender differences in marital status were significant for single, married and other (widowed, separated, divorced) groups (Table-1). The marital status of the participants in the present study correlates with the findings of studies from Puducherry [22], North India [9], Chennai [12], Mysore district [21], Vietnam [18] and Nigeria [16] where there was a preponderance of married participants. Contrasting findings have been reported by researchers from Spain [15] and Iran [14, 27] where a majority of the participants were single.

Limitations

This was a single-location cross-sectional study. It was not possible to verify the self-reported socio-demographic details. A larger multi-location study would be required in order to generalize the results.

CONCLUSION

There is an urgent need to include socio-demographic factors while planning HIV prevention efforts. Nearly half of the participants belonged to the economically active age group of 35-45 years, which amplifies the financial burden on their families. Since the nearly two-thirds of the HIV sero-positive females were housewives, marital status appears to be a risk factor for women who get infected by their HIV positive spouses. Focused intervention for the HIV negative spouses will diminish the likelihood of female sero-positivity and mother-to-child transmission of HIV. Semi-skilled and skilled male workers, whose migration is by and large employment-driven, constituted nearly half of the sero-positive males. Studies have identified this group as a conduit for the spread of HIV infection from high-risk groups to the general population and for urban-to-rural spread. Nearly one-fourth of the HIV sero-positive males had completed college education hence it is also necessary to focus intervention on groups with higher literacy to ensure better compliance in use of personal protective measures that can help preclude the spread of HIV infection. Conducting similar studies in an assortment of settings will enable better understanding of the role of socio-demographic status in the HIV epidemic

REFERENCES

1. Paranjape, R. S., & Challacombe, S. J. (2016). HIV/AIDS in India: An overview of the Indian epidemic. *Oral diseases*, *22*, 10-14.
2. National AIDS Control Organization & ICMR-National Institute of Medical Statistics (2018). HIV Estimations 2017: Technical Report. New Delhi: NACO, Ministry of Health and Family Welfare, Government of India.
3. Lal, S. (2003). Surveillance of HIV/AIDS epidemic in India [editorial]. *Indian Journal of Community Medicine*, 28(1), 5.
4. Kant, S., Goswami, K., Rai, S. K., Dar, L., & Misra, P. (2007). Quality assurance of annual HIV sentinel surveillance 2006: Experience of regional institute, central zone. *Editorial Board Vol. 51 No. 1 January-March 2007*, *51*(1), 28-32.
5. Sgaier, S. K., Claeson, M., Gilks, C., Ramesh, B. M., Ghys, P. D., Wadhwani, A., ... & Chandramouli, K. (2012). Knowing your HIV/AIDS epidemic and tailoring an effective response: how did India do it?. *Sex Transm Infect*, *88*(4), 240-249.
6. Pandey, A., Reddy, D. C., Ghys, P. D., Thomas, M., Sahu, D., Bhattacharya, M., ... & Garg, R. (2009). Improved estimates of India's HIV burden in 2006. *Indian Journal of Medical Research*, *129*(1), 50-59.
7. Joshi, H. S., Das, R., & Agnihotri, A. K. (2004). Clinico-epidemiological profile of HIV/AIDS patients in Western Nepal-a study from a teaching hospital. *Indian Journal of Preventive and Social Medicine*, *35*(1-2), 69-76.
8. Kumawat, S., Kochar, A., Sirohi, P., & Garhwal, J. (2017). Socio-demographic and clinical profile of HIV/AIDS patients in HAART era at a tertiary care hospital in North-West Rajasthan, India. *International Journal Of Community Medicine And Public Health*, *3*(8), 2088-2093.
9. Kohli, R. M., Sane, S., Kumar, K., Paranjape, R. S., & Mehendale, S. M. (2005). Modification of medical outcome study (MOS) instrument for quality of life assessment & its validation in HIV infected individuals in India. *Indian Journal of Medical Research*, *122*(4), 297-304.
10. Singh, H., Kaur, K., Dulhani, N., Bansal, A., Kumar, B. N., & Chouhan, V. K. S. (2013). Assessment of quality of life in a cohort of newly diagnosed patients on haart regimen, in resource restricted tribal region of chhattisgarh, India: A prospective study. *Journal of global infectious diseases*, *5*(3), 104-109.
11. Wig, N., Sakhuja, A., Agarwal, S. K., Khakha, D. C., Mehta, S., & Vajpayee, M. (2008). Multidimensional health status of HIV-infected outpatients at a tertiary care center in north India. *Indian Journal of Medical Sciences*, 62(3), 87-97.
12. Nirmal, B., Divya, K., Dorairaj, V., & Venkateswaran, K. (2008). Quality of life in HIV/AIDS patients: A cross-sectional study in south India. *Indian Journal of Sexually transmitted diseases and AIDS*, *29*(1), 15-17.
13. Astoro, N. W., Djauzi, S., Djoerban, Z., & Prodjosudjadi, W. (2007). Quality of life of HIV patients and influential factors. *Cancer*, *39*(1), 2-7.
14. Nojomi, M., Anbary, K., & Ranjbar, M. (2008). Health-related quality of life in patients with HIV/AIDS. *Archives of Iranian medicine*, *11*(6), 608-612.
15. Briongos Figuero, L. S., Bachiller Luque, P., Palacios Martin, T., González Sagrado, M., & Eiros Bouza, J. M. (2011). Assessment of factors influencing health-related quality of life in HIV-infected patients. *HIV medicine*, *12*(1), 22-30.
16. Fatiregun, A. A., Mofolorunsho, K. C., & Osagbemi, K. G. (2009). Quality of life of people living with HIV/AIDS in Kogi State, Nigeria. *Benin journal of postgraduate medicine*, *11*(1), 21-27.
17. Folasire, O. F., Irabor, A. E., & Folasire, A. M. (2012). Quality of life of People living with HIV and AIDS attending the Antiretroviral Clinic, University College Hospital, Nigeria. *African Journal of Primary Health Care & Family Medicine*, *4*(1).
18. Tran, B. X. (2012). Quality of life outcomes of antiretroviral treatment for HIV/AIDS patients in Vietnam. *PloS one*, *7*(7), e41062.
19. Anand, D., Puri, S., & Mathew, M. (2012). Assessment of quality of life of HIV-positive

people receiving ART: an Indian perspective. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, *37*(3), 165-169.

20. Basavarajaiah, D. M., Murthy, B. N., Leelavathy, B., & Maheshappa, K. (2012). Assessment of Quality of Life of People Living With HIV/AIDS In Karnataka State. *Int J Sci Tech Res*, *1*(10), 38-47
21. Gowda, S., Channabasappa, A., Dhar, M., & Krishna, D. (2012). Quality of life in HIV/AIDS patients in relation to CD4 count: A cross-sectional study in Mysore district. *International Journal of Health & Allied Sciences*, *1*(4), 263-267.
22. Mahalakshmy, T., Premarajan, K. C., & Hamide, A. (2011). Quality of life and its determinants in people living with human immunodeficiency virus infection in Puducherry, India. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, *36*(3), 203-207.
23. Mutabazi-Mwesigire, D., Seeley, J., Martin, F., & Katamba, A. (2014). Perceptions of quality of life among Ugandan patients living with HIV: a qualitative study. *BMC Public Health*, *14*(1), 343.
24. de Boer-van der Kolk, I. M., Sprangers, M. A., Prins, J. M., Smit, C., de Wolf, F., & Nieuwkerk, P. T. (2010). Health-related quality of life and survival among HIV-infected patients receiving highly active antiretroviral therapy: a study of patients in the AIDS Therapy Evaluation in the Netherlands (ATHENA) Cohort. *Clinical Infectious Diseases*, *50*(2), 255-263.
25. Uma, T., Srijayanth, P., Valarmathi, S., Sekar, S., Kabilan, N., & Natarajan, M. (2012). Socio-demographic profile of HIV/AIDS patients at ART centres in Chennai. *BMC infectious diseases*, *12*(S1), P53.
26. Campos, L. N., César, C. C., & Guimarães, M. D. C. (2009). Quality of life among HIV-infected patients in Brazil after initiation of treatment. *Clinics*, *64*(9), 867-875.
27. Lari, M. A., Faramarzi, H., Shams, M., Marzban, M., & Joulaei, H. (2013). Sexual dysfunction, depression and quality of life in patients with HIV infection. *Iranian journal of psychiatry and behavioral sciences*, *7*(1), 61-68.