



Impact Of Anti Natal Care In Hiv Risk Profile Among Scheduled Tribe Scheduled Tribes In Southern States

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Abstract:

HIV/AIDS is a global public health issue and its transmission in a defined geographic region is influenced by the interplay of socio-demographic and behavioral factors. Better understanding of socio-demographic characteristics of HIV-positive individuals is required to prevent the spread of HIV among the general population. **Objectives:** The objective of the study was to find the association between HIV prevalence and socio-demographic characteristics of Scheduled Tribes aged 15–49 years attending the antenatal clinics (ANCs) in four Southern states of India. **Methods:** The data from the latest round of HIV sentinel surveillance, a cross-sectional study, conducted during January–March 2023 among ANC attendees were considered for this analysis. Blood samples along with other relevant information were collected from 98,634 Scheduled Tribes from 248 sites across the states. The association between HIV prevalence and socio-demographic variables was examined using multivariable logistic regression. **Results:** The highest HIV prevalence was reported in Karnataka (0.38%) and Andhra Pradesh (0.38%), followed by Telangana (0.33%), Odisha (0.28%), Tamil Nadu (0.27%), and Kerala (0.05%). In all states, the prevalence was highest among illiterate Scheduled Tribes exception being Kerala, wherein the prevalence was highest in Scheduled Tribes with schooling up to primary education. A significant association was found between HIV prevalence and spouse occupation in Karnataka and Odisha and spouse migration in Andhra Pradesh and Karnataka. **Conclusions:** Need for improving the interventions for the young, illiterates, having a migrant spouse, and spouse occupation as truckers/hotel staff is recommended to the stakeholders involved in HIV management of the six southern states of India.

Keywords: Antenatal clinic attendees, antenatal clinic, HIV sentinel surveillance, prevention and control, socio-demographic factors.

Introduction

Ever since its incidence in the 1980s, HIV/AIDS continues to be a serious global public health issue. Globally, 37.9 million people are living with human immunodeficiency virus (PLHIV), with 1.7 million being newly infected as per the reports in 2018.^[1] India is the third-largest country for HIV epidemic, worldwide, after South Africa and Nigeria, with 2.1 million PLHIV.^[2] The first case of HIV infection in India was detected in 1986 among female sex workers in Chennai.^[3] During the epidemic inception, the disease was more concentrated in the South and Northeast; the four Southern states (Andhra Pradesh, Karnataka, Maharashtra, and Tamil Nadu) and two Northeastern states (Manipur and Nagaland) reported a high HIV prevalence among the Scheduled Tribes and were classified as high-prevalence states.^[4] The disease, however, eventually progressed and became widespread. The timely interventions carried out at various levels in response to the infection had a great impact in containing the spread of infection. Overall, India's HIV epidemic has declined; new infections declined by 27%, and AIDS-related deaths declined by 56% between 2010 and 2017.^[5] India is now considered as a nation with a low HIV prevalence (adult prevalence <1%).^[6] The epidemic in India is concentrated among high-risk group (HRG) populations including female sex workers, men who have sex with other men, transgender people, and injecting drug users. The infection is generally transmitted from HRGs to low-risk groups such as the general population through bridge populations such as migrants and truckers.

Major Objectives:

The objective of the study was to find the association between HIV prevalence and socio-demographic characteristics of Scheduled Tribes aged 15–49 years attending the antenatal clinics (ANCs) in six Southern states of India.

Study designed area

The study involves the analysis of data collected during the 15th round of HSS conducted from January to March in 2023 among Scheduled Tribes attending designated ANCs. The states included are Andhra Pradesh, Karnataka, Kerala,

Odisha, Tamil Nadu, and Telangana. HSS essentially was a cross-sectional study that follows a consecutive sampling method, employing a linked anonymous test approach and two-test protocol.

Study population and sampling

A total of 98,634 Scheduled Tribes were recruited from 248 sites across all six states included in this study. The sample size was fixed at 400 based on the standardized operational protocols. Scheduled Tribes aged 15–49 years attending designated ANCs for the 1st time during the surveillance period were included following a consecutive sampling method to eliminate sampling bias.

Data collection/measurement

Socio-demographic characteristics of all recruited patients were recorded and blood samples were collected from all eligible respondents. Linked anonymous testing approach was followed to improve the antiretroviral therapy (ART) referral and linkage of the HIV-positive Scheduled Tribes, and two-test procedure was used to confirm the HIV status of the samples. Standard operating procedures were followed for collecting and testing the samples across all the sites, as mentioned elsewhere.

Table.No.1. HIV Awareness Health Programmes in Slums of Chennai city, 2021 (North Region & Central Region)

Particulars	Zones				Zones					
	I	II	III	IV	V	VI	VII	VIII	IX	X
Total Number of Schools	22	36	44	30	22	39	43	23	28	27
Total No of Schools covered	18	36	44	30	22	39	43	23	28	11
No of Children covered	14960	8335	15340	11767	18567	6670	11905	127411	19978	8242
No of Children treated	10484	7324	13084	10702	17402	6049	10300	8752	18095	3015
Total Number of Slums	80	21	85	55	78	48	27	53	37	82
No of Slums covered	24	21	53	55	78	48	27	53	36	61
No of Population	120000	125000	160549	42000	187024	117000	52550	125374	72000	140000
No of Population covered	38300	116500	10144	3251	90068	117000	52550	2400	70000	76000

In the Table Ref. No.1 the first case of Human Immuno-deficiency Virus (HIV) positive case was detected in Tamil Nadu in 1986. In 1992, the state AIDS project cell was set up. The prevalence of HIV infection among sexually transmitted disease patients and tuberculosis patients has increased to three times from 1995 to 1998. The epidemic is advancing among population at risk at an alarming pace. Tamil Nadu leads the country in controlling the spread of HIV/AIDS. Counseling and testing HIV-TB co-infection services, blood safety, STD, Anti Retro-viral Therapy (ART), etc, are clubbed and brought in a single window for convergence and client convenience. In the urban areas, many of the urban health post and the urban family welfare centers operate as Integrated Counseling and Training Center (ICTC).

Table – 2. Expenditure by HIV health care providers in Southern Zone, 2022.

Sl. No	Services	Percentage
1.	Dispensaries	5.21
2.	Family Welfare Centers	2.50
3.	Public Health Labs / Blood Banks	0.14
4.	Provider of Medical Goods	0.35
5.	Provision of Public Health and Revised Child Health Programmes	2.84
6.	Public Health and RCH Training	0.25
7.	Medical Education Research	1.89
8.	General Health Administration and Insurance	1.13
9.	Public Hospitals	5.82
10.	Not Classified	2.29
11.	Private Provider of Health services	76.74

In the public sector, the major provider of health care services includes public hospitals, outreach centers, medical education, research and training, etc. Thus either by way of financing the sources of health care or financing the providers of health care, the out-of-pocket expenditure borne by the public always remains the main source of agents for funds. Curative care services gets importance over the preventive and primitive care services. Of the total health expenditure of Rs.1,337,763,206,000 incurred during 2023, the major expenditure was enjoyed by curative care by nearly 77 per cent as shown in the Table – 3.

Table – 3 Expenditure incurred for health care services and functions in India, 2022-23.

Function	Expenditure	% Distribution
Curative care	1,042,869,705	77.96
Rehabilitative or Long term Nursing care	6,584,492	0.49
Ancillary Services related to medical care	6,865,742	0.51
Medical goods dispensed to outpatients	2,747,011	0.21
RCH and Family Welfare	107,971,453	8.07
Control of Communicable Diseases	18,077,393	1.35
Control of non-communicable diseases	2,422,183	0.18
Other public health activities	6,541,673	0.49
Health Administration and Insurance	43,315,661	3.24
Nutrition programme by state department of health	213,219	0.02
Medical education and training of health personnel	24,109,129	1.80
Research and Development	6,031,522	0.45
Food Adulteration	775,194	0.06
Capital expenditure	14,516,534	1.09
Functions not specified	54,722,295	4.09
Total	1,337,763,206	100.00

The Government of Tamil Nadu provides all the above services to its population through its network of health care service delivery system. It ranges from the grass root level health posts which function for every 50,000 population to the multi speciality government hospitals which possess higher order technology, logistics, equipments, manpower and multiple services.

Chennai is provided with the prime municipal corporation which administers the day to day functions of the city smoothly. The metropolitan city is bifurcated into 10 zones with 155 divisions or wards. Apart from the four government general hospitals and other government health institutions, the city has 10 zonal health posts and 93 urban health posts to provide health care services to its population.

Table – 4. Communicable Diseases in Chennai city 2021, 2022 and 2023.

Sl. No.	Diseases	2015	2017	2023
1	Cholera	790	1224	968
2	Non-Vibrio Cholera	8119	2513	3561
3	Chicken Pox	1858	1094	1854
4	Measles	184	116	174
5	Mumps	67	61	28
6	Herper Zoster	-	34	24
7	Typhoid	26	-	4
8	Malaria	40	5	50
9	Hepatitis	5	-	-
10	Respiratory Infections	-	-	6
11	Tuberculosis	16	-	-
12	Pyrexia of unknown origin	629	24	50
13	Eruptive Fever	187	36	9
14	Others	68	4	40
15	Opportunistic Infection	-	-	12
	Total	11989	5111	6781

There are four main government general hospitals functioning in the city of Chennai. They are the Madras Medical College and Hospital, Government Royapettah Hospital, Government Kilpauk Hospital and Government Stanley Hospital. These government general hospitals offer diagnostic, screening, laboratory, curative and tertiary care to all the general population of the city and for other citizens from other places other than the city. These hospitals possess large number of beds and equal number of health manpower, specialists to lower level workers. They offer tertiary health care including out-patient and in-patient services. (Appendix V). These multi-specialty health institutions provide health care services free of cost to the population living below the poverty line and charge others in accordance to their economic capabilities.

They also conduct medical camps charging a minimum amount of Rs.250/- (Rupees Two Hundred and Fifty only), which includes screening for diabetes, hypertension, cholesterol, etc. All these government hospitals are provided with such technology as to provide health education to health professional and tertiary care to several diseases and disorders. Physiotherapy and rehabilitative care is also undertaken in these hospitals.

With the concerted efforts of the services from the municipal corporation in Chennai, the health status of the general population has improved in some areas than most. The development index as detailed below shows interesting facts about the comparison between the state of Tamil Nadu and its main city Chennai.

Table-5:- Association of education attainment and HIV prevalence by year of HIV sentinel surveillance, from logistic regression models (Model 1)

Variables	Kerala		Tamil Nadu	
	HIV+ve, n(%)	OR(95%CI)	HIV+ve,n(%)	OR(95%CI)
Total	5599(0.05)		28400(0.27)	
Age Group (Years)				
15-24	2169(0.00)	-	16618(0.28)	1(ref)
24-34	3141(0.10)	1(ref)	113..(0.26)	0.91(0.57-1.44)
35-49	289(0.00)	0.00	482(0.21)	0.73(0.10-5.32)
Literacy Status				
Ill rate	31(0.00)	-	699(0.72)	1(ref)
Up to Primary School	70(1.43)	1(ref)	1652(0.36)	0.51(0.15-1.67)
Up to High School	1737(0.06)	0.04(0.00-0.64)***	12045(0.28)	0.39(0.15-1.01)*
Up to Higher Sec.,	3290(0.00)	0.00***	12.120(0.25)	0.34(0.13-0.89)*
Up to P.G.Degree	456(0.22)	0.15(0.01-2.45)	1878(0.11)	0.15(0.03-0.76)*
Order of Pregnancy				
First	2331(0.00)	-	12.791(0.30)	1(ref)
Second	2189(0.05)	1(ref)	11.567(0.24)	0.79(0.49-1.29)
Third	795(0.13)	2.76(0.17-44.11)	3187(0.16)	0.51(0.20-1.31)
Fourth/More	278(0.36)	7.90(0.49-126.65)	836(0.60)	1.97(0.77-5.01)
Duration of Current Pregnancy				
First Trimester	2594(0.04)	1(ref)	4564(0.28)	1(ref)
2 nd Trimester	1614(0.00)	0.00	9515(0.26)	0.92(0.47-1.80)
3 rd Trimester	1383(0.14)	3.75(0.34-41.45)	14.299(0.27)	0.96
Current residence				
Urban	1364(0.07)	1(ref)	9897(0.27)	1(ref)
Rural	4208(0.05)	0.65(0.06-7.15)	18460(0.29)	0.99(0.62-1.59)
Occupation of Spouse				
Labourer*	2695(0.11)	1(ref)	26.843(0.27)	1(ref)
Employed/Self Employed*	2025(0.00)	0.00	7791(0.17)	0.59(0.32-1.09)
Hotel Staff/Drivers*	860(0.00)	0.00	4650(0.41)	1.44(0.84-2.47)
Status of Spouse Migration				
Yes	4697(0.04)	1(ref)	26.843(0.27)	1(ref)
No	618(0.16)	4.02(0.36-44.43)	1324(0.26)	0.97(0.35-2.64)
Ever Tested for HIV				
Yes	3926(0.08)	1(ref)	24.226	1(ref)
No	1671(0.09)	0.00	4173(0.10)	0.32(0.12-0.87)*

Total May not be matched due to missing values

*Significant at $P < 0.05$, *** Significant at $P < 0.01$. * Including Agri Labourer, non-agri labourer, domestic servant and skilled/semiskilled worker. *Including Petty business/small shop, Large business/self-employed, Service (Govt/Private) and agri, cultivator/land lord, *including Hotel Staff, Lorry Driver/helper and local transport worker(Auto Taxi driver).

Indian states are diverse in terms of culture, religion, race, language, and so on. Similarly, HIV in India is also heterogeneous in nature, implying that one intervention fits all may not work for the effective HIV management. Decentralized targeted intervention specific to location and socio-demographics of the population is required, for which analysis of socio-demographic characteristics for its potential association with infection risk is essential. The results indicate that a low level of education is predominantly associated with higher odds of infection risks. Although education may not be directly associated with the risk of HIV infection, education paves a way for better awareness of the disease, which eventually reflects on HIV prevention and management. Education, on the other hand, also empowers the women to be economically independent, which may relieve them from sexual exploitation, eventually resulting in reduced HIV burden. In India, comprehensive knowledge of HIV/AIDS was only found among 21.6% of young women aged 15–24 years, emphasizing the need for educating the young on HIV/AIDS prevention and control measures. State and district level interventions to create awareness through folk tales and media advertisements in local languages have been substantially successful in creating among the illiterates and those with limited access to written or printed

information. These efforts are still required to promote HIV management and ART and to evade the prevailing misconceptions and stigma about HIV, for progressive disease management. Educating men, especially the young, on HIV prevention and management will have profound effects on reducing the disease burden among married women.

Table-6 : Association of education attainment and HIV prevalence by year of HIV sentinel surveillance, from logistic regression models (Model 2)

Variables	Andhra Pradesh		AOR (95%CI)	Telangana		AOR (95%CI)
	HIV+ve, n(%)	OR(95%CI)		HIV+ve,n(%)	OR(95%CI)	
Total	15,460 (0.38)			11,575 (0.33)		
Age Group (Years)						
15-24	11456 (0.38)	1(ref)		8006 (0.34)	1(ref)	
24-34	3904 (0.36)	0.93 (0.51- 1.71)		3495 (0.29)	0.85 (0.41- 1.75)	
35-49	100 (0.00)	0.00		74 (1.35)	4.05 (0.54- 30.19)	
Literacy Status						
Ill rate	1999 (0.60)	1(ref)	1(ref)	1994 (0.75)	1(ref)	1(ref)
Up to Primary School	2778 (0.32)	0.54 (0.23- 1.28)	0.57 (0.24- 1.38)	1223 (0.57)	0.76 (0.31- 1.87)	0.68 (0.27- 1.68)
Up to High School	6446 (0.42)	0.70 (0.35- 1.38)	0.77 (0.38- 1.55)	4571 (0.26)	0.35 (0.16- 0.74)*	0.30 (0.14- 0.64)**
Up to Higher Sec.,	3753 (0.24)	0.40 (0.17- 0.95)*	0.43 (0.18- 1.04)	3393 (0.12)	0.16 (0.05- 0.47)***	0.13 (0.04- 0.40)***
Up to P.G.Degree			0.39 (0.50- 3.03)	383 (0.00)		
Order of Pregnancy						
First	6620 (0.50)	1(ref)		4812 (0.48)	1(ref)	
Second	6843 (0.25)	0.50 (0.28- 0.89)		4888 (0.27)	0.56 (0.28- 1.10)	
Third	1644 (0.43)	0.85 (0.38- 1.93)		1549 (0.06)	0.14 (0.02- 1.00)*	
Fourth/More	342 (0.29)	0.59 (0.08- 4.29)		320 (0.31)	0.65 (0.09- 4.85)	
Duration of Current Pregnancy						
First Trimester	2465 (0.53)	1(ref)		2262 (0.71)	1(ref)	
2 nd Trimester	6171 (0.37)	0.71 (0.36- 1.40)		4815 (0.27)	0.38(0.18- 0.79)*	
3 rd Trimester	6806 (0.32)	0.61 (0.31- 1.22)		4491 (0.20)	0.28 (0.12- 0.64)**	
Current residence						
Urban	4108 (0.41)	1(ref)		2778 (0.47)	1(ref)	1(ref)
Rural	11.27 (0.36)	0.54 (0.26- 1.12)		8709 (0.29)	0.61-(0.31- 1.20)	0.45 (0.23-0.90)*
Occupation of Spouse						
Labourer*	9439 (0.38)	1.88 (0.95- 3.70)		5633 (0.36)	1(ref)	
Employed/Self Employed*	4359 (0.21)	1(ref)		4200 (0.17)	0.47 (0.20- 1.11)	
Hotel	1541 (0.71)	3.20 (1.15-		1612	1.93 (0.922-	

Staff/Drivers*		8.899*		(0.68)	4.03)	
Status of Spouse Migration						
Yes	15078 (0.35)	1(ref)	1(ref)	11409 (0.32)	1(ref)	
No	358 (1.12)	3.20 (1.15-0.899)*	3.37 (1.21-9.41)*	123 (0.81)	2.92 (0.34-18.50)	
Ever Tested for HIV						
Yes	8958 (0.37)	1(ref)		7309 (0.29)	1(ref)	
No	6493 (0.39)	1.05 (0.62-1.76)		4264 (0.40)	1.39 (0.73-2.64)	

Total May not be matched due to missing values

*Significantat $P < 0.05$, *** Significantat $P < 0.01$. * Including Agri Labourer, non-agrilabourer, domestic servant and skilled/semiskilled worker. *Including Petty business/small shop, Large business/self-employed, Service(Govt/Private) and agri, cultivator/land lord, *including Hotel Staff, Lorry Driver/helper and local transport worker(Auto Taxi driver).

HIV prevalence was predominantly higher among Scheduled Tribes whose spouses were truckers, transport workers, and hotel staff, specifically in Karnataka, given its dynamic population. Dynamicity in population is often associated with the spread of infection; often, men traveling between urban and rural regions contribute to the increase in HIV prevalence. Consequently, spouses of migrants were also at substantial risk of infection, as evidenced by earlier reports. Even with specific targeted interventions for truckers and migrants, follow-up is a concern with these mobile populations. Again, while long-distant truckers have been covered through Targeted Interventions, little is known about the interventions for local transport workers. More targeted interventions for such a mobile population with digital-based technologies for effective follow-up services may be helpful. India has mandated HIV testing for all Scheduled Tribes to reduce the vertical transmission of the disease to the children. Early diagnosis and timely ART administration reduce the vertical transmission risk by 25 times. Hence, it is advised that all Scheduled Tribes avail ANC services in the first trimester of their pregnancy. Women of fourth- or higher-order pregnancies had predominantly higher HIV prevalence, although minimal in numbers needs attention for preventing further transmission.

Major Findings:

Descriptive statistics were used to describe the characteristics of the study participants. In all states, the association between HIV prevalence (outcome variable) and socio-demographic variables (explanatory variables) was examined using multivariable logistic regression. Odds ratios and P values were used to indicate the significance of the influence of the explanatory variable on the outcome and the extent of that influence. All associated socio-demographic factors (age, literacy status, residence, occupation, and spouse migration status) that were at the significant level with $P < 0.20$ on unadjusted logistic regression were further examined in multivariable logistic regression. Following the selection of significant variables, the suitability of the model fit was assessed with the Hosmer–Lemeshow test with the significance level of 5%. Data were analyzed using SPSS software IBM Corp. Released 2023. IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp. $P 0.05$ was used to indicate statistical significance.

Ethical issue

Ethical approval was exempted as this was a surveillance activity where the HIV test was anonymous and the results were not used for determining the HIV status of a person. However, the purpose of the study was informed to the participants before the sample collections. The same is endorsed in Item No. 6 under Chapter III of the India HIV act 2017.

Socio-demographic profile of the study subjects

Age distribution varied between the states ($P < 0.001$); the distribution of respondents of age ≤ 24 years ranged from 38.7% in Kerala to 74.1% in Andhra Pradesh. Based on the education, the proportion of illiterate Scheduled Tribes was highest in Telangana (17.2%) and lowest in Kerala (0.6%), whereas the proportion of Scheduled Tribes with higher secondary and tertiary level of education ranged from 17.1% in Odisha to 67.1% Kerala. Most of the participants were residents of rural areas ($\geq 60\%$) except in Telangana, a recently formulated state in India. In all states, more than 65% of the respondents were housewives, the highest proportion being in Tamil Nadu and Odisha ($\geq 90\%$) (data not shown). The spouse migration wherein the spouse had stayed away from the family for more than 6 months was as high as 11.1% (Kerala) to 1.1% (Karnataka and Telangana). The proportion of Scheduled Tribes who had never been tested for HIV ranged between 85.3% (Tamil Nadu) and 32.9% (Telagana).

HIV prevalence by socio-demographic characteristics

Among the six South Indian states included in this study, the highest HIV prevalence among the Scheduled Tribes aged 15–49 years was reported in Karnataka (0.38%) and Andhra Pradesh (0.38%), followed by Telangana (0.33%), Odisha

(0.28%), Tamil Nadu (0.27%), and Kerala (0.05%). The potential risk factors associated with HIV prevalence in each state In general, younger age is considered to be associated with increased infection risk, owing to their vulnerability. However, in Karnataka, the HIV risk was significantly higher in Scheduled Tribes aged 35–49 years compared to those aged 15–24 years.

Literacy status had a significant ($P < 0.05$) association with the odds of having positivity of HIV status in both unadjusted and adjusted models across the three states (Andhra Pradesh, Telangana, and Tamil Nadu). HIV prevalence was predominantly higher among the illiterates as compared to other literacy groups. Secondary and above secondary level education had significantly lower odds of infection risks in Kerala, Tamil Nadu, Andhra Pradesh, and Telangana. Education level did not significantly influence the HIV prevalence in Karnataka and Telangana. Primigravida mothers were predominantly at a higher risk of infection, except Kerala. However, the high HIV prevalence was associated with fourth- or higher-order pregnancies in all states, except Andhra Pradesh. The duration of pregnancy and residence were not significantly associated with infection risks, the exception being Telangana. The HIV prevalence was predominantly higher among Scheduled Tribes whose spouse occupation was hotel staff/truckers in all states except Kerala. A significant association between HIV prevalence and spouse occupation was observed in two states: Karnataka and Odisha, in both unadjusted and adjusted models. The odds of infection risk in Scheduled Tribes whose spouses were truckers/hotel staff were 2 times higher than that of the laborers. While the HIV prevalence was higher among Scheduled Tribes with a migrant spouse in all states except Tamil Nadu, this association was significant in Andhra Pradesh and Karnataka. Compared to their counterparts, women with migrant spouses were at least twice at higher odds of infection risk in Andhra Pradesh (adjusted odds ratio [AOR]: 3.37, confidence interval [CI]: 1.21–9.41, $P < 0.05$) and Karnataka (AOR: 2.59, CI: 0.81–8.31, $P < 0.05$). Interestingly, the odds of HIV prevalence were significantly higher among those Scheduled Tribes in Tamil Nadu, Karnataka, and Odisha, who had previously tested for HIV, compared to those who had never been tested for HIV.

Majors Suggestions:

As HSS is a cross-sectional survey that is conducted biennially at the same designated sentinel sites, some degree of overlap in sample selection may persist. The current analysis does not account for clustering effects due to geography and time. Migration and double counting are some of the major problems for any survey, which are not addressed.

Need for improvising the interventions for the young, illiterates, having a migrant spouse, and spouse occupation as truckers/hotel staff is recommended to the stakeholders involved in HIV management of the six Southern states of India.

Conclusion

The containing the disease at the HRG level is deemed to be effective in preventing the disease spread to the general population. For this, India implements one of the world's largest and most robust HIV sentinel surveillance (HSS), a biennial system, which estimates the HIV prevalence among various HIV subpopulations: HRG, bridge population, and the general population. Scheduled Tribes are a good representation of the sexually active population among the general population. HSS among the Scheduled Tribes, thus, serves as one of the key indicators for HIV prevalence estimation of the general population. In most countries, the HIV surveillance data are considered to be one of the best to track the epidemics pattern,^[7] as it enables analysis of the socio-demographics characteristics, associated with HIV transmission. HIV transmission is mainly driven by the socio-demographic and behavioral characteristics of an individual. Consequently, a thorough analysis of the socio-demographic characteristics of the Scheduled Tribes and its potential association with HIV infection will greatly influence HIV prevention and control measures. The objective of this study is to analyze the HSS data collected in 2017 to find any potential association between the HIV prevalence and socio-demographic characteristics of Scheduled Tribes aged 15–49 years attending the antenatal clinics (ANCs) in six Southern states of India.

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