

## Original Research Article

# Discrimination among people living with HIV attending an antiretroviral therapy Centre in Gwalior: a cross-sectional study

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## ABSTRACT

**Background:** In India, despite advances in HIV prevention and treatment, the well-being of people living with HIV (PLHIV) continues to be affected by persistent stigma and discrimination. Beyond community-level prejudice, discriminatory attitudes within families remain common and are influenced by socio-economic factors and access to accurate HIV-related information. Family-level discrimination continues to pose a significant challenge to the overall HIV response.

**Methods:** A hospital-based cross-sectional design conducted over a twelve-month period. The study focused on 380 HIV-positive participants within the 25 to 35 years of age. Assessments were performed using a structured questionnaire to access the discrimination. Data were analysed using SPSS v27, with  $p < 0.05$  considered significant. Chi square test was applied wherever appropriate.

**Results:** Out of 380 participants, 85 (22.4%) reported having faced discrimination, while the majority, 295 (77.6%), did not report any discriminatory experiences.

**Conclusions:** The findings indicate that although overt discrimination is uncommon among most PLHIV, it remains a substantial barrier for vulnerable groups, including those socially marginalized, newly enrolled in treatment, or lacking domestic support. Discrimination, in conjunction with stigma, continues to negatively influence mental health and overall well-being.

**Keywords:** People living with HIV, Antiretroviral therapy, Discrimination, AIDS, Stigma

## INTRODUCTION

The Joint United Nations Programme on HIV/AIDS (UNAIDS) proposed the global “getting to zero” strategy, which emphasizes three major targets: zero new HIV infections, zero AIDS-related deaths, and zero discrimination.<sup>1</sup> However, the objective of eliminating discrimination, as highlighted in the UNAIDS 2011-2015 strategic framework, has not yet been fully achieved. Consequently, the target of zero discrimination was continued in the subsequent UNAIDS 2016-2021 strategy.<sup>2</sup> Therefore, assessing the magnitude of stigma and discrimination at the country level is essential to

generate baseline evidence and to monitor progress toward achieving the goal of zero discrimination as part of ending the HIV epidemic.

In India, HIV/AIDS remains an important public health concern, although the prevalence is relatively low compared to many countries. Recent estimates indicate that adult HIV prevalence in India is approximately 0.2%, with more than 2.5 million people currently living with HIV.<sup>3</sup> Despite significant advances in prevention and treatment, HIV infection in some Indian communities is still perceived as a consequence of “sinful” or immoral behavior, which contributes to persistent stigma and

discrimination against people living with HIV and adversely affects their access to care and quality of life.

When stigma and discrimination are prevalent, individuals often fear social rejection and negative attitudes more than the disease itself. As a result, many prefer to remain unaware of their actual or suspected HIV status, which may lead to delayed diagnosis, faster disease progression, and an increased risk of transmission to others. However, the role of HIV-related stigma and discrimination as important factors contributing to the spread of the epidemic has not been fully explored. In light of the foregoing context, the present study was undertaken at the antiretroviral therapy (ART) Centre JAH, Gwalior to assess the sociodemographic determinants of people living with HIV and to assess the Stigma and Discrimination of people living with HIV attending ART centre.

### **Objectives**

The objectives were to estimate the prevalence of the discrimination and sociodemographic determinants of people living with HIV and behavioral factors that contribute to mental health challenges among patients at anti-retroviral therapy facility in Gwalior.

## **METHODS**

### **Study type**

It was a hospital based cross-sectional study.

### **Place of study**

The study was conducted at the ART Centre of the Jaya Arogya Group of Hospitals in Gwalior, Madhya Pradesh.

### **Period of study**

The present study was carried from 1<sup>st</sup> May 2024-30<sup>th</sup> April 2025.

### **Sample size determination**

The sample size was estimated by document analysis of Sahu et al.<sup>8</sup>

Using the formula:  $n = Z_{\alpha/2}^2 \times P(100 - P)/d^2$

Assuming a 5% level of significance and 5% absolute error and  $p=43.45$ , the minimum sample size was 378, rounding in total of 380 subjects.

### **Inclusion criteria**

All registered participants who are HIV positive and in between 25 to 35 years of age irrespective of gender attending ART Centre, JAH, G.R.M.C, Gwalior, all HIV

positive patients registered at ART Centre, JAH, Gwalior willing to give consent for his/ her participation to study were included.

### **Exclusion criteria**

Participants below 25 years of age and above 35 years of age, severely ill patients, patients diagnosed with AIDS and participants not willing to participate in the study were excluded from the study.

### **Ethical consideration**

The study received ethical clearance from the Institutional Ethical Committee, Approval no.-1449/IEC-GRMC/2024; Dated: 01/05/2024 of Gajra Raja Medical College, Gwalior (M.P.).

### **Discrimination scoring**

The scoring of discrimination was carried out by combining the variables from Tables 3 and 4. Each variable was assigned a score based on the discriminatory attitude experienced by people living with HIV. A score of 2 was given for a discriminatory attitude, whereas a score of 1 was assigned for a non-discriminatory attitude. For example, in Table 3, "supportive" responses were scored as 1, while responses such as "ashamed" or "loss of status and honour" were scored as 2. Similarly, in Table 4, responses such as "unknown to family" were scored as 1, whereas "expelled from home" was scored as 2. The scores from both tables were then summed to obtain a composite value. A total score of  $\leq 2$  was considered as absence of discrimination, while a score  $\geq 2$  was considered as presence of discrimination. Based on this classification, the prevalence of discrimination was calculated.

Data were analysed using SPSS version 27.0. Chi-square test was used to assess the factors associated with discrimination, with  $p < 0.05$  considered statistically significant.

## **RESULTS**

Table 1 illustrates a total of 380 participants were included in the study. The study population was predominantly male (74.7%), with females constituting about one-fourth (24.5%). Slightly more than half of the participants were aged 31 years or above (53.9%), indicating a relatively mature study population.

With respect to educational status, the majority had attained at least middle school education, and one-fifth of the participants were graduates or post-graduates (20.3%). Illiteracy was observed in a relatively small proportion (7.6%). Occupationally, unskilled workers formed the largest group (31.0%), followed by semi-skilled (23.7%) and skilled workers (10.3%), reflecting a predominantly lower to middle occupational profile.

According to the revised BG Prasad socio-economic classification (January 2025), most participants belonged to the upper-middle (32.9%) and middle (29.7%) classes, while a smaller proportion belonged to the lower-middle (16.6%) and lower (3.7%) classes. More than half of the participants were from the general caste category (52.0%), followed by other backward classes (31.1%) and scheduled castes (15.3%).

Majority of participants were Hindu (91.3%). Most participants resided in urban areas (61.0%), followed by rural areas (31.6%), indicating predominantly urban study population. In terms of marital status, about half of participants married (51.2%), while substantial proportion unmarried (40.3%). With regard to family structure, more than half of participants belonged to nuclear families (55.3%), followed by joint families (36.8%).

Table 2 depicts that most participants were adherent to ART (77.9%). Nearly half had received counselling within the past 1-3 months (48.4%), while 30.0% reported a gap of more than three months. About two-fifths had been on treatment for 1-4 years (41.6%). Alcohol and smoking before sexual intercourse were reported by 13.9% and 24.5% participants, respectively. Condom use was reported by 67.9%, while 32.1% did not use condoms. Most participants had a single sexual partner (58.4%), whereas 12.9% reported multiple partners.

The Table 3 presents the responses of partners and family members toward the HIV status of the study participants. Among the 380 participants, the majority 310 (81.5%) reported that their family members and partners were supportive after learning of their HIV status. However, 8 (2.1%) experienced shame or perceived loss of status, and 17 (4.5%) were disowned by their families. Furthermore, 40 (10.5%) participants chose not to disclose their HIV status, possibly due to fear of discrimination or rejection, while 5 (1.4%) reported being deserted by their spouse.

The Table 4 presents the attitude of spouses and family members toward study participants after learning their HIV status. A large majority 273 (72.0%), reported receiving a supportive and caring attitude from their family or spouse, indicating a generally positive and empathetic response within the domestic environment. However, 37 (9.7%) participants had not disclosed their status to their families, while 26 (6.8%) reported initial hesitation that eventually turned supportive. On the other hand, smaller proportions experienced discrimination 7 (1.8%) were expelled from home, 7 (1.8%) faced neglect or segregation, and 6 (1.6%) were verbally assaulted or faced negative behaviour. Overall, while the majority

experienced family acceptance, a subset still faced discriminatory or stigmatizing responses, suggesting that social stigma persists, even within intimate family settings.

The Table 5 illustrates the prevalence of discrimination experienced by people living with HIV. Out of 380 participants, 85 (22.4%) reported having faced discrimination, while the majority, 295 (77.6%), did not report any discriminatory experiences.

Table 6 illustrates the association between socio-demographic characteristics and discrimination among people living with HIV (n=380). The overall prevalence of perceived discrimination was 22.4%. No significant association was observed with gender, age group, education, occupation, socio-economic status, or place of residence ( $p>0.05$ ).

However, caste and religion were significantly associated with discrimination. A higher prevalence of discrimination was observed among Scheduled tribe participants (83.3%) and among Muslim (36.4%) and Christian (66.7%) participants compared to Hindus (21.6%). Marital status also showed a statistically significant association, with higher discrimination among separated (77.8%) and unmarried individuals (26.8%) compared to married participants (16.4%) ( $p<0.001$ ).

Family type was significantly associated with discrimination, with higher prevalence among individuals living alone (60%) compared to nuclear (20%) and joint families (17.9%) ( $p<0.001$ ).

Table 7 shows the association between high-risk sexual behavior and discrimination among people living with HIV. No significant association was observed with adherence to ART, time since last counselling, or smoking before sexual intercourse ( $p>0.05$ ). However, duration of treatment was significantly associated with discrimination, with higher prevalence among those on treatment for less than one year (35.5%) compared to those on longer treatment ( $p=0.008$ ). Alcohol intake before sexual intercourse was also significantly associated, with higher discrimination among those consuming alcohol (37.7%) ( $p=0.004$ ).

Use of condoms showed a significant association, with higher discrimination among those reporting condom use (27.9%) compared to non-users ( $p<0.001$ ). In addition, participants with multiple sexual partners reported significantly higher discrimination (46.9%) compared to those with a single or no partner ( $p<0.001$ ).

**Table 1: Distribution of study participants according to their socio-demographic profile, (n=380).**

Variables	N	Percentage (%)
Gender	Male	284
	Female	93
	Transgender	03

Continued.

Variables		N	Percentage (%)
Age groups (in years)	≤30	175	46.1
	≥31	205	53.9
Education	Illiterate	29	7.6
	Primary school	73	19.2
	Middle school	76	20.2
	High school	61	16.1
	Intermediate	64	16.8
	Graduate/post graduate	77	20.3
Occupation	Student	20	5.3
	Professional	34	8.9
	Semi professional	08	2.1
	Clerical	11	2.9
	Unskilled	118	31.0
	Shop owner	22	5.8
	Farmer	38	10.0
	Skilled	39	10.3
	Semi-skilled	90	23.7
Socio-economic status (Revised BG Prasad classification January 2025)	I upper class	65	17.1
	II upper middle class	125	32.9
	III middle class	113	29.7
	IV lower middle class	63	16.6
	V lower class	14	3.7
Caste	General	198	52.0
	OBC	118	31.1
	Scheduled caste	58	15.3
	Scheduled tribe	6	1.6
Religion	Hindu	347	91.3
	Muslim	22	5.8
	Sikh	8	2.1
	Christian	3	0.8
Residence	Urban	232	61.0
	Urban slum	28	7.4
	Rural	120	31.6
Marital status	Married	195	51.2
	Unmarried	153	40.3
	Divorced	6	1.6
	Widow	17	4.5
	Separated	9	2.4
Family type	Single	30	7.9
	Nuclear family	210	55.3
	Joint family	140	36.8

Table 2: High risk sexual behaviour of study participants.

Variables		N	Percentage (%)
Adherence to ART	Non adherent	84	22.1
	Adherent	296	77.9
Time elapsed since last counselling	<1 month	82	21.6
	>3 month	114	30.0
	1-3 month	184	48.4
Duration of treatment	<1 year	76	20.0
	1-4 years	158	41.6
	>4 years	146	38.4
Alcohol intake before sexual intercourse	Yes	53	13.9
	No	327	86.1
Smoking status before sexual intercourse	Yes	93	24.5
	No	287	75.5

Continued.

Variables		N	Percentage (%)
Use of condom	Yes	258	67.9
	No	122	32.1
Sexual partners	Single sexual partner	222	58.4
	Multiple sexual partner	49	12.9
	Presently without partner	109	28.7

**Table 3: Distribution of study participants according to discriminatory reaction of partner and other family members to HIV status, (n=380).**

Reaction of partner and other family member	N	Percentage (%)
Supportive	310	81.5
Ashamed/loss of status and honour	08	2.1
Disowned by the family	17	4.5
HIV status not disclosed	40	10.5
Spouse deserted	5	1.4
Total	380	100.0

**Table 4: Distribution of study participants according to discriminatory attitude of spouse/family members, (n=380).**

Attitude of spouse/family	N	Percentage (%)
Unknow to family	37	9.7
Expelled from home	07	1.8
Family is not but spouse	24	6.3
Initial hesitation but then supportive	26	6.8
Neglected/Segregated	07	1.8
Supportive and caring	273	72.0
Verbally assaulted and negative behaviour	06	1.6
Total	380	100.0

**Table 5: Distribution and prevalence of discrimination among people living with HIV, (n=380).**

Discrimination status	N	Percentage (%)
Absent	295	77.6
Present	85	22.4
Total	380	100.0

**Table 6: Association between socio-demographic profile and discrimination status among PLWHIV, (n=380).**

Variables	Discrimination status		$\chi^2$ and p value
	Absent	Present	
Gender	Male	61 (21.5%)	$\chi^2=3.608$ P=0.165
	Female	22 (23.7%)	
	Transgender	2 (66.7%)	
Age groups (in years)	<30	39 (22.3%)	$\chi^2=0.001$ P=0.971
	≥31	46 (22.4%)	
Education	Illiterate	07 (24.1%)	$\chi^2=2.259$ P=0.812
	Primary school	18 (24.7%)	
	Middle school	17 (22.4%)	
	High school	10 (16.4%)	
	Intermediate	13 (20.3%)	
	Graduate/post graduate	20 (26%)	
Occupation	Student	05 (25%)	$\chi^2=4.366$ P=0.823
	Professional	11 (32.4%)	
	Semi professional	02 (25%)	
	Clerical	02 (18.2%)	
	Unskilled	28 (23.7%)	
	Shop owner	06 (27.3%)	
	Farmer	08 (21.1%)	
	Skilled	06 (15.4%)	
	Semi-skilled	17 (18.9%)	

Variables	Discrimination status		$\chi^2$ and p value	
	Absent	Present		
<b>Socio-economic status (Revised BG Prasad classification January 2025)</b>	I upper class	44 (67.7%)	21 (32.3%)	$\chi^2=4.592$ P=0.332
	II upper middle class	100 (80%)	25 (20%)	
	III middle class	89 (78.8%)	24 (21.2%)	
	IV lower middle class	51 (81%)	12 (19%)	
	V lower class	11 (78.6%)	03 (21.4%)	
<b>Caste</b>	General	159 (80.3%)	39 (19.7%)	$\chi^2=14.071$ P=0.003
	OBC	92 (78.0%)	26 (22.0%)	
	Scheduled Caste	43 (74.1%)	15 (25.9%)	
	Scheduled Tribe	01 (16.7%)	05 (83.3%)	
<b>Religion</b>	Hindu	272 (78.4%)	75 (21.6%)	$\chi^2=8.290$ P=0.040
	Muslim	14 (63.6%)	08 (36.4%)	
	Sikh	08 (100%)	00 (0%)	
	Christian	01 (33.3%)	02 (66.7%)	
<b>Residence</b>	Urban	173 (74.6%)	59 (25.4%)	$\chi^2=3.514$ P=0.173
	Urban slum	22 (78.6%)	06 (21.4%)	
	Rural	100 (83.3%)	20 (16.7%)	
<b>Marital status</b>	Married	163 (83.6%)	32 (16.4%)	$\chi^2=21.753$ P<0.001
	Unmarried	112 (73.2%)	41 (26.8%)	
	Divorced	05 (83.3%)	01 (16.7%)	
	Widow	13 (76.5%)	04 (23.5%)	
	Separated	02 (22.2%)	07 (77.8%)	
<b>Family type</b>	Single	12 (40%)	18 (60%)	$\chi^2=26.785$ P<0.001
	Nuclear family	168 (80%)	42 (20%)	
	Joint family	115 (82.1%)	25 (17.9%)	

**Table 7: Association between high-risk sexual behaviour and discrimination status among people living with HIV, (n=380).**

Variables	Discrimination status		$\chi^2$ and P value	
	Absent	Present		
<b>Adherence to ART</b>	Non adherent	65 (77.4%)	19 (22.6%)	$\chi^2=0.004$ P=0.950
	Adherent	230 (77.7%)	66 (22.3%)	
<b>Time elapsed since last counselling</b>	<1 month	59 (72%)	23 (28%)	$\chi^2=2.369$ P=0.306
	>3 month	88 (77.2%)	26 (22.8%)	
	1-3 months	148 (80.4%)	36 (19.6%)	
<b>Duration of treatment</b>	<1 year	49 (64.5%)	27 (35.5%)	$\chi^2=9.733$ P=0.008
	1-4 year	126 (79.7%)	32 (20.3%)	
	>4 year	120 (82.2%)	26 (17.8%)	
<b>Alcohol intake before sexual intercourse</b>	Yes	33 (62.3%)	20 (37.7%)	$\chi^2 =8.376$ P=0.004
	No	262 (80.1%)	65 (19.9%)	
<b>Smoking status before sexual intercourse</b>	Yes	73 (78.5%)	20 (21.5%)	$\chi^2=0.053$ P=0.818
	No	222 (77.4%)	65 (22.6%)	
<b>Use of condom</b>	Yes	186 (72.1%)	72 (27.9%)	$\chi^2 =14.196$ P<0.001
	No	109 (89.3%)	13 (10.7%)	
<b>Sexual partners</b>	Single sexual partner	180 (81.1%)	42 (18.9%)	$\chi^2=19.571$ P<0.001
	Multiple sexual partner	26 (53.1%)	23 (46.9%)	
	Presently without partner	89 (81.7%)	20 (18.3%)	

## DISCUSSION

In our present study the prevalence of discrimination experienced by people living with HIV. Out of 380 participants, 85 (22.4%) reported having faced discrimination, while the majority, 295 (77.6%), did not report any discriminatory experiences. According to Mehta et al among 135 women living with HIV (WLHIV), 41.5% (95% CI: 33.2%-49.8%) reported feeling discriminated against. The most common forms of

discrimination included family rejection (17.3%), shifting of residence (8.5%), and divorce from spouse (5.4%).<sup>4</sup> In a study by Patankar et al the majority of participants (88.17%; n=164) had disclosed their HIV status to family members and consequently experienced discrimination.<sup>5</sup> Similarly, Nursalam et al in Indonesia found that more than 70% of respondents reported experiencing discriminatory attitudes within their families.<sup>6</sup> In another study conducted by Corona et al in Virginia, it was

observed that 79% of people living with HIV/AIDS (PLWHA) had experienced discrimination.<sup>7</sup>

In this study the majority of the participants (53.9%) were aged  $\geq 31$  years, while 46.1% were aged  $\leq 30$  years. In a study carried out by Sahu et al the participants had a mean age of 36.42 years with a standard deviation of 10.29 years.<sup>8</sup> Similarly, Oke et al in their research conducted at Abeokuta, Nigeria, observed that the overall mean age of the respondents was  $41.20 \pm 9.12$  years.<sup>9</sup>

In this study the majority were male (74.7%), followed by female participants (24.5%), while 0.8% identified as transgender. Similarly, findings from Dutta et al in West Bengal revealed that males constituted 59.3% of the study participants.<sup>11</sup>

In our present study 20.2% were graduates, 20.2% had completed middle school, 19.2% had education up to primary school, 16.8% had studied up to the intermediate level, and 16.1% had completed high school, while 7.6% of the participants were illiterate. According to Sahu et al about 21.73% of the participants were illiterate.<sup>8</sup> In a study conducted by Charles et al in South India, it was reported that 11.2% of men and 17.5% of women were non-literate.<sup>10</sup>

In this study the majority of participants (32.9%) belonged to the upper middle class, followed closely by lower middle class (29.7%). Around 17.1% of participants were from the upper class, indicating that nearly one-fifth of the respondents had relatively higher socio-economic status. The upper lower class constituted 16.6%, while only 3.7% of participants were from the lower class. Similarly, Adhikari et al at Kolkata, using the BG Prasad socio-demographic scale (modified in 2018), classified 25.2%, 34.0%, 25.9%, 14.2%, and 0.7% of respondents into classes I, II, III, IV, and V, respectively. Furthermore, 50.7% of participants reported a personal income below ₹5000 per month, 6.5% were non-income earners, and 2.0% identified their occupation as sex work. Additionally, 6.5% of respondents reported tobacco and/or alcohol use at the time of the study.<sup>15</sup>

In this study, the majority of participants were Hindu (91.3%), followed by Muslim (5.8%), Sikh (2.1%), and Christian (0.8%). This distribution reflects the predominant religious composition of the population in the study region of Gwalior. According to Dutta et al in West Bengal, the study revealed that the majority of participants (79.1%) were Hindus, while 10% were Muslims and 11.9% were 158 Christians.<sup>11</sup> In a study from Kolkata by Sarkar et al it was observed that most participants were Hindus (80%), followed by Muslims (17.3%). Among the Hindu respondents, 51.1% belonged to the general category, while 22.2% were from the scheduled caste.<sup>12</sup>

In this study 258 (67.9%) reported using condoms during sexual intercourse, while 122 (32.1%) admitted to

engaging in unprotected sexual intercourse. In a study conducted in Nepal, Bhatta et al observed that approximately one-fourth of individuals living with HIV (26.0%, 95% CI=17.2-34.7) reported having sexual intercourse without using a condom.<sup>13</sup>

Similarly, in Botswana, Weiser et al found that 38% of respondents had engaged in unprotected sex within the past year, while only 12%-13% of both men and women reported having unprotected sexual intercourse with a non-monogamous partner during the previous month.<sup>14</sup>

In this study only 53 (13.9%) reported consuming alcohol before sexual intercourse, while the vast majority 327 (86.1%) denied such behavior and 93 (24.5%) reported smoking prior to sexual intercourse, while 287 (75.5%) denied such behavior. A study conducted by Bhatta et al reported that among individuals living with HIV, approximately 26.5% were current tobacco users (95% CI=18.9-34.1), whereas 22.7% (95% CI=15.5-30.0) consumed alcohol.<sup>13</sup>

Similarly, in Botswana, Weiser et al found that 38% of respondents had engaged in unprotected sex within the past year, while only 12-13% of both men and women reported having unprotected sexual intercourse with a non-monogamous partner during the previous month.<sup>14</sup>

### **Limitations**

The study strictly included participants only between the ages of 25 and 35 years. This narrow focus limits the generalizability of the findings to younger adolescents or older adults living with HIV. As a hospital-based study focused on an ART centre, it may underestimate the true burden of stigma, as it excludes undiagnosed individuals or those avoiding treatment due to extreme fear of discrimination.

### **CONCLUSION**

The study reveals that while discrimination is absent for 77.6% of PLHIV, it remains a barrier for 22.4%, particularly marginalized groups. Key drivers include caste (Scheduled Tribes 83.3%), religion, and lack of domestic support (60% among those living alone). The first year of treatment is critical, with higher discrimination rates (35.5%) observed.

Furthermore, high-risk behaviours like alcohol use (37.7%) or multiple partners (46.9%) increase vulnerability. To achieve UNAIDS "zero discrimination" goals, targeted interventions are essential for the newly diagnosed and socially isolated to improve mental health.

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