

Rural Urban Differentials in Awareness, Knowledge and Perception about HIV/AIDS among Men in High and Low Prevalence States in India

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Abstract: Several studies have been performed to discuss about HIV/AIDS in high prevalence states but these studies have not dealt with differentials by place of residence. Through this paper an attempt has to be made to assess the urban rural differentials in knowledge and awareness about HIV/AIDS and attitude towards PLWHA among men. The present study has utilized data from Mens file of NFHS-III, as for the first time NFHS has provided information on various issues related to men and their behavior. For the current analysis the state of Maharashtra and UP are selected. The determinants of above outcome measures are examined through logistic regression models using selected background variables, e.g. age, place of residence, level of education, marital status, occupation, mass media exposure, and wealth index.

Keywords: HIV/AIDS, NFHS, Prevalence, Rural-Urban differential, India.

1 Introduction

In South and South-East Asia which is now an epicenter of the HIV/AIDS epidemic, India is estimated to have the largest burden, about 3.7 million infections (UNAIDS 2000). In absolute terms, India continues to stand second, next to South Africa having 5.3 million HIV infections. However, the new estimates (NACO, 2006) indicate that national adult HIV prevalence in India is approximately 0.36% - 0.4% which corresponds to estimated 2 to 3 million people living with HIV in the country. Although, the statistics vary with various reports, the threat within persists. In any country, population health, including control of HIV/AIDS, is fundamental for achieving economic progress. It is a matter of concern that though the disease has reached the low risk population but knowledge and access to information about HIV/AIDS is still lacking, which presents an unmistakable health threat to India. Controls of communicable diseases have received special attention since the country's ninth five-year plan (Ghosh, 2002). As on January 2006, the joint programs of UNAIDS and WHO estimated that AIDS has killed more than 25 million people since it was first recognized on December 1, 1981. It is estimated that about 0.6 percent of worlds population is infected with HIV.

In Indian contest, there is a growing concern of this epidemic as it was estimated by National AIDS Control Organization (NACO) that around 5 million people were living in India with HIV. But the recent estimates from a national household based survey data led to a major revision of the estimated prevalence of HIV in India and suggested that around 2.4 million people were living in India are living with HIV (UNAIDS,2008). Although the back calculation suggests that HIV prevalence in India may have declined slightly in recent years, but the epidemic is still growing in some region as well as population subgroups.

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For example, the HIV prevalence was considerably higher among southern states (especially Andhra Pradesh, Maharashtra, Tamil Nadu and Karnataka) compared to other parts of the country (except north-east) and among men (0.36 percent) compared to women (0.22 percent) in the general adult population in India (IIPS and ORC Macro 2007).

However, many problems inhibit successful implementation of awareness programs. Reluctance to report sexual activities makes it difficult to empower the population with information. Moreover, low level of literacy may limit the population's access to HIV/AIDS related information. Apart from this, AIDS-related stigma refers to prejudice and discrimination directed at people living with HIV/AIDS (PLWHA), and the groups and communities that they are associated with. It can result in people living with HIV/AIDS being rejected by their community, shunned, discriminated against or even physically hurt.

Information is the first step in HIV prevention. Ignorance about the disease and how the virus is transmitted can generate fear and prejudice towards those who are infected. Hence, IEC strategies are the major steps in HIV prevention which help in fighting fear, prejudice, and myths. As such effective preventive strategies could prevent around 29 million new HIV infections worldwide by 2010 (Sudha et al. 2005). HIV/AIDS has long been viewed as an urban problem, while rural area is often believed to be free of the pandemic. This assumption is false; HIV/AIDS is no longer restricted to urban centre. Although most attention has been paid to urban area, the number of people living with HIV/AIDS may, in absolute number, be greater in rural area. HIV/AIDS has an additional impact on rural area because many HIV positive urban dwellers choose to return to their village of origin when they become ill, placing a greater burden on rural area to care for the increasing number of people living with HIV/AIDS (PRB. 2000)

Stigma still remains the single most important barrier to public action. This is the prime reasons, why many people are afraid to consult a doctor to find out whether they have the disease, or to seek treatment if so. It helps make AIDS the silent killer, because people fear the social disgrace of talking about it, or taking easily available precautions. Stigma is the main reason why the AIDS epidemic continues to devastate societies around the world (Ki-moon, 2008). The AIDS stigma has negative effects on PLWHA. They bear the burden of societal hostility at a time when they urgently need social support. The AIDS stigma also deters people at risk of HIV from being tested and seeking information and assistance for risk reduction; indeed, entire communities have been reluctant to acknowledge their collective risk. Because of the AIDS stigma many people may distance themselves from the disease and deny their potential risk. Such behavior serves as a serious obstacle to prevention efforts. In order to ultimately reduce the incidence of AIDS, the stigma associated with it must be directly confronted (Avert, 2009).

2 Literature Review

Today India is at the crossroads in its battle against HIV. Responding to immense challenge of HIV/AIDS, there is a need to articulate a clear and effective response to increase access to services and communicate effectively for behavior change. In marked contrast to the southern and western states, eastern and northeastern states report much lower levels of AIDS cases. West Bengal, Bihar, and Assam account for less than 1 percent of national AIDS cases. Manipur is exception with a high HIV prevalence among intravenous drug users (IDUs). UP and Rajasthan have infection about 1 percent rates whereas Himachal Pradesh and Haryana have less than 0.50 percent population living with AIDS. The northern states have low literacy rates, which may lead to limited awareness of HIV and fewer visits to clinics.

At the same time, a higher degree of economic dependency among women increases their vulnerability. Or there may simply be an anomalously low reporting of HIV/AIDS in the region (Ghose, 2002).

HIV/AIDS knowledge in general and about prevention in particular has been found to be higher amongst men, but both genders overall may lack the sexual negotiation skills necessary to conduct discussion about individual-level prevention or safer-sex (AIDS Weekly Plus 1997). In case of low level of overall HIV/AIDS awareness and prevention awareness, there is a strong positive association between HIV/AIDS knowledge and condom use (Balk and Lahiri 1997). Possessive HIV/AIDS knowledge from a number of different sources rather than a single source has been associated with an increased likelihood of having discussed HIV/AIDS with friends, family members, and spouses (Dutta, 1998). For sex workers, community advocacy has been instrumental in spreading HIV prevention knowledge amongst community members, and has led to a statistically significant increase in condom use (Pardasani, 2005).

In most societies, AIDS is associated with groups whose social and sexual behavior does not meet with public approval. In the study by Ambati et al (1997), 60 percent of respondents believed that only gay men, prostitutes, and drug users can get AIDS. but negative responses and attitudes towards PLWHA are strongly linked with general levels of knowledge about HIV/AIDS, in particular, to the causes of AIDS and routes of HIV transmission. An important feature of the age-sex distribution of AIDS cases in India is that higher numbers of males are infected compared to females. Based on data reported by NACO, of the total reported AIDS cases, 76 percent are men and 23 percent are females (Ghosh, 2002).

An Indian study (Bharat, 1996) found that, although a majority of those who had shared their HIV status with their families received care and support, it was largely men rather than women who qualified for such care. Family responses to infected relatives are heavily influenced by community perceptions of the disease. Families that have an individual with HIV may fear isolation and ostracism within the community. Consequently, they may try to conceal an HIV diagnosis, which in turn may cause considerable stress and depression within the family (Bharat & Aggleton, 1999).

3 Need for the Study

Awareness has grown substantially in the past couple of years, though the level of awareness varies widely among cities and villages. It is high time that HIV/AIDS should be treated as a national emergency. By examining responses to HIV/AIDS in culturally contrasting as well as high and low prevalence states of India it may be possible to identify some of the ways in which people with HIV/AIDS are stigmatized and discriminated against in different situations.

There are many studies which have discussed about HIV/AIDS in high prevalence states but these studies have not dealt with differentials by place of residence. In 1992 government launched the National AIDS Control Program-I (NACP-I) to prevent HIV transmission, reduce the morbidity and mortality associated with HIV infection, and minimize the socio-economic impact of HIV infection. In 1999, NACP II was started and its main aim was to change high risk behaviour in population who were at the risk of contracting the infection and spreading in the general population. The third stage of the National AIDS Control Programme (2007-2012) it meant to provide an integrated package of prevention, care and support and treatment with the aim of reducing incidence as estimated in the first year of the program by 60 percent in high prevalence states and by 40 percent in the vulnerable states.

At the launch of National AIDS Control Program III based on the HIV sentinel surveillance from year 2004, 2005 and 2006, 32 out of 35 districts of Maharashtra and 5 out of 70 districts of Uttar Pradesh were categorized as A districts. As such Maharashtra is a high prevalence state and Uttar Pradesh is a low prevalence state. In view of the above the present study is an attempt to know about knowledge and awareness of HIV/AIDS by residence background in high and low prevalence states. It consider men, as most of HIV/AIDS studies and program interventions focus either on high risk group such as commercial sex workers, truck drivers and intra venous drug users but not major subgroups of the population.

4 Objective

The broad objective of this study is to assess the urban rural differentials in knowledge and awareness about HIV/AIDS and attitude towards PLWHA among men. The specific objectives of the study are-

- To study the differentials in knowledge and awareness about HIV/AIDS by residence background.
- To find out the determinants of comprehensive knowledge about HIV/AIDS by residence background.
- To study the perception about the avoidance of HIV/AIDS and its determinants.
- To examine the perceived behavior of men towards people living with HIV/AIDS.

5 Data and Methods

The present study has utilized data from Mens file of NFHS-III, as for the first time NFHS has provided information on various issues related to men and their behavior. The state of Maharashtra (n=8867) and Uttar Pradesh (n=11458) were selected for the current analysis. The determinants of above outcome measures are examined through logistic regression models using selected background variables, e.g. age, place of residence, level of education, marital status, occupation, mass media exposure, and wealth index .Description of indicators included in the analysis has been as follows:

Age has been classified into three groups-

- 1.Early adulthood (15-29 years)
- 2.Middle adulthood (30-44 years)
- 3.Late adulthood (45-54 years)

Occupation has been categorized as-

- 1.Not working
- 2.Technical & service sector: Professor, Teacher, Manager, Clerical, Sale & Services
- 3.Agricultural & manual work: Agriculture self employed, Agriculture employees,
- 4.Household & domestic, Skilled & unskilled manual.

Index of Mass Media Exposure-

- 1.Low
- 2.Medium
- 3.High

Computed using the frequency of mean of reading newspaper/magazines, listening to radio and watching television.

5.1 HIV/AIDS-related knowledge and source of Information-

- Heard of HIV/AIDS: Percentage of respondents who responded affirmatively to the question, Have you ever heard of an illness called AIDS?
- AIDS related comprehensive knowledge: Computed using five questions (use of condom in every act of sexual intercourse and having just one uninfected faithful partner ,says that a healthy looking person can have HIV/AIDS and rejects the two most common misconceptions i.e. mosquito bite and sharing food can cause HIV/AIDS infection).
- Perception: AIDS could be avoided among those who were aware of AIDS. All the mentioned ways to avoid HIV/AIDS were classified into two categories:
 - Sexual behavior (Abstain from sex, limit sex to one partners, avoid sex with prostitutes, avoid sex with those who have multiple partners and avoid sex with those who are homosexuals or are drug users).
 - Other behavior (avoid blood transfusions ,use blood only from relatives, avoid injection, avoid IV drop, avoid sharing razors/ blades, avoid kissing, mosquito bite and others).
- Source of information has been classified into three major groups :
 - Community: Health workers, adult education program, religious leaders, political leaders, school/teachers and community meeting.
 - Family & friends: Wife, friends/relatives, workplace and others.
 - Mass media: Radio, T. V., cinema, news paper/magazines, posters/hoarding and mela/exhibitions.

5.2 Accepting attitudes toward PLWHA

Percentage of men expressing accepting attitudes on all four indicators:

- Are willing to take care of a relative with HIV/AIDS in own home
- Would buy fresh vegetables from a shopkeeper who has HIV/AIDS
- Feels that a female teacher who has HIV/AIDS but is not sick should be allowed to continue teaching
- Feels that a male teacher who has HIV/AIDS but is not sick should be allowed to continue teaching

Table1: Socioeconomic-demographic characteristics of men in Maharashtra and Uttar Pradesh, 2005-06.

Background Characteristics	Maharashtra(n=8867)		Uttar Pradesh(n=11458)	
	Rural(n=2499)	Urban(n=6368)	Rural(n=6040)	Urban(n=5418)
Age Group				
Early Adulthood	47.7	51.4	52.6	54.5
Middle Adulthood	37.4	35.0	34.6	32.2
Late Adulthood	14.9	13.6	12.9	13.3
Education				
No Education	11.5	4.1	24.3	15.7
Primary	19.6	10.0	14.9	12.8
Secondary & Above	68.9	85.9	60.8	71.4
Marital status				
Never Married	32.7	43.3	32.3	41.9
Ever Married	67.3	56.7	67.7	58.1
Occupation				
Not Working	9.6	16.0	12.5	17.7
Technical & Services Sector	17.9	48.0	14.2	39.1
Agricultural & Manual Work	72.5	36.0	73.2	43.1
Caste				
SC/ST	31.2	19.1	26.0	22.8
OBC	29.2	27.3	52.8	40.3
Others	39.6	53.6	21.2	36.9
Religion				
Hindu	88.1	72.9	86.6	76.2
Muslim	4.3	17.7	12.7	22.5
Others	7.5	9.4	0.7	1.2
Wealth Index				
Quintile 1	7.9	0.7	28.5	2.6
Quintile 2	13.3	2.9	29.9	8.1
Quintile 3	17.4	9	21.9	13.5
Quintile 4	27	32.9	14.8	29.1
Quintile 5	34.4	54.6	4.9	46.8
Mass Media Exposure				
Low	6.4	1.3	6.5	3.3
Medium	44.0	26.5	59.6	36.9
High	49.6	72.2	33.9	59.8

6 Results and Discussion

6.1 Sample Characteristic of the respondents

The profile of respondents has been given in Table 1. Almost half of the respondents belonged to early adulthood age group in both rural and urban settings of Maharashtra and Uttar Pradesh. More than two third rural men and over half of urban men were ever married in both Maharashtra as well as Uttar Pradesh Maharashtra. Around three fourth rural men of Maharashtra and Uttar Pradesh were engaged in agriculture and manual work while around half of the men of Maharashtra and two of every five men of Uttar Pradesh were engaged in technical and service sector.

Most of the males from Maharashtra are from other caste while in case of Uttar Pradesh they are from OBC. Urban males are more from Maharashtra while reverse is the case for Uttar Pradesh. Significant rural-urban differential exists in Uttar Pradesh than Maharashtra so far as wealth index is concerned especially in case of higher order quintiles. In case of mass media exposure seven out of every ten urban and half of the rural men of Maharashtra had high exposure while in case of Uttar Pradesh these proportion are 60 and 30 only.

6.2 Knowledge of HIV/AIDS

Most of the men (92%) confirmed that they have heard of HIV/AIDS in Maharashtra while in Uttar Pradesh four out of five had heard about it. Rural-urban differentials in this general awareness about HIV/AIDS have been found to be high in Uttar Pradesh in comparison to Maharashtra.

Figure 1. Percentage of men who had heard of HIV/AIDS

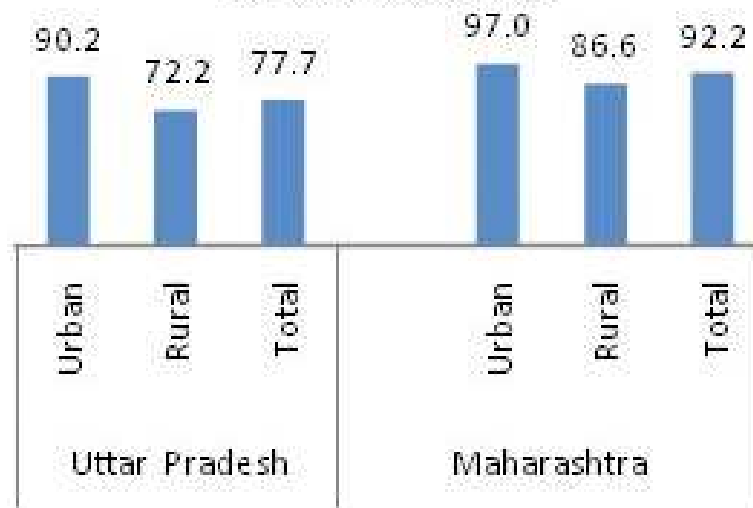
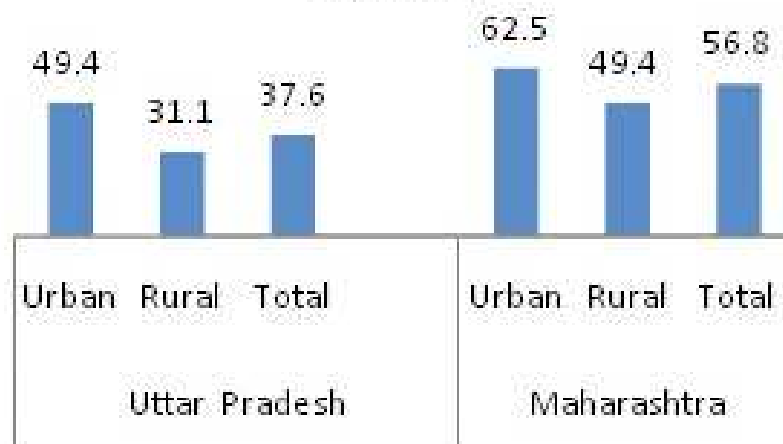


Figure 2. Percentage of men having comprehensive knowledge about HIV/AIDS



It is evident from the Figure 1 that general awareness about HIV/AIDS is fairly good, but most men were only aware of HIV or AIDS. Overall, comprehensive knowledge about HIV/AIDS is 38 percent and 57 percent in Uttar Pradesh and Maharashtra respectively (Figure 2); but rural-urban differentials are more pronounced in Uttar Pradesh than Maharashtra.

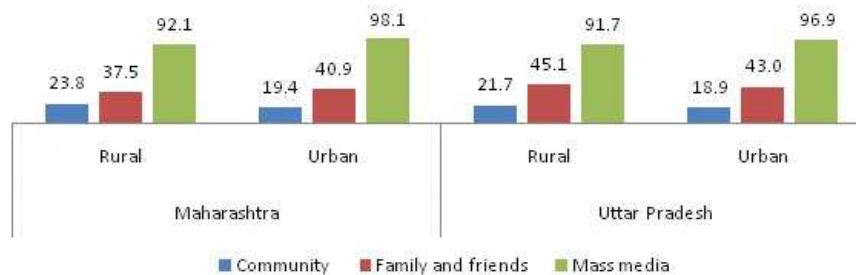
Table 2 Percentage of men who had Comprehensive knowledge of HIV/ AIDS in Maharashtra, and Uttar Pradesh by selected background characteristics, 2005-06

Background Characteristics	Maharashtra (n=8341)		Uttar Pradesh (n=9416)	
	Rural (n=2164)	Urban n=6177)	Rural (n=4360)	Urban (n=5056)
Age Group				
Early Adulthood	53.2	64.1	33.1	53.1
Middle Adulthood	46.3	61.3	28.6	45.2
Late Adulthood	43.1	59.4	27.0	43.1
Education				
No Education	21.3	30.7	13.4	26.5
Primary	28.5	38.6	16.1	29.9
Secondary & Above	56.9	66.3	36.8	55.8
Marital status				
Never Married	55.3	65.7	34.9	54.6
Ever Married	46.1	60.1	29.0	45.5
Occupation				
Not Working	59.7	69.0	39.6	62.3
Technical & Services Sector	60.3	65.3	37.8	51.6
Agricultural & Manual Work	44.6	55.7	27.5	41.1
Caste				
SC/ST	42.7	60.0	25.6	46.6
OBC	52.7	64.9	29.0	44.9
Others	51.4	62.1	59.2	55.7
Religion				
Hindu	49.8	63.3	31.4	51.0
Muslim	48.4	58.0	28.2	42.2
Others	44.9	64.6	53.2	69.8
Wealth Index				
Quintile 1	21.1	11.8	9.8	13.5
Quintile 2	31.8	28.1	16.7	23.8
Quintile 3	45.6	35.6	26.2	29.7
Quintile 4	55.6	57.1	43.2	36.8
Quintile 5	68.5	69.3	52.4	58.9
Mass media Exposure				
Low	17.3	20.0	22.9	18.4
Medium	34.7	45.5	23.2	37.8
High	62.0	69.0	41.1	56.2
Total	49.4	62.5	31.1	49.4

Table 2 shows the comprehensive knowledge in men about HIV/AIDS in urban and rural areas of both the states. The overall differential is more in Uttar Pradesh than Maharashtra. The differential between urban and rural Maharashtra is less in early adulthood in comparison to Uttar Pradesh. With the increase in education comprehensive knowledge about HIV/AIDS has increased. The rural urban differential is very much same with the increase in level of education in Maharashtra but it has widened in case of Uttar Pradesh men who had level of education secondary and above. In case of marital status there exists higher rural-urban differential in Uttar Pradesh compared to Maharashtra and this differential is more pronounced in case of never married men.

It is worth noting that rural urban differential in case of person engaged in technical and service sector is only five percent point in Maharashtra where it is close to three times more in Uttar Pradesh. The rural-urban differential is more evident in case of SC/ST and OBC of Uttar Pradesh but this narrows down in case of others in Uttar Pradesh but men from others category in Uttar Pradesh have higher level of comprehensive knowledge compared to urban men while reverse in case in Maharashtra Religion wise differential in Uttar Pradesh is more than Maharashtra. It is more in case of Hindu of Uttar Pradesh and others of Maharashtra. More than 60 percent rural men of Maharashtra and more than 50 percent men of urban Uttar Pradesh got comprehensive knowledge about HIV/AIDS through high mass media exposure.

Figure 3. Source of Information about HIV/AIDS by place of residence

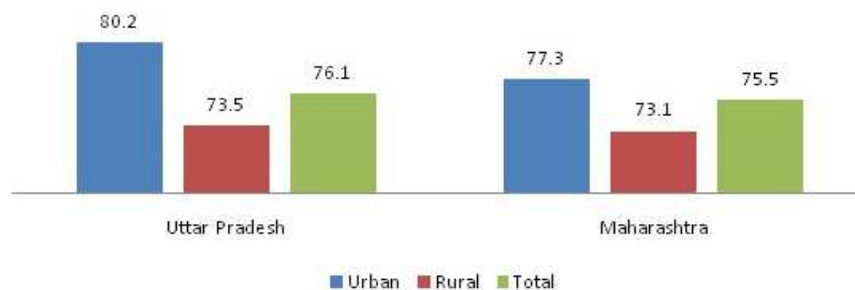


Source of information is vital for the appropriate knowledge of the disease. Figure 3 shows the source of information about HIV/AIDS by place of residence. It is apparent that mass media has been reported as almost universal source of information by men in both the settings of Uttar Pradesh and Maharashtra. Approximately 20 percent men reported community as source of information regarding HIV/AIDS. Family and peer group has been reported by almost 45 percent men in rural Uttar Pradesh while approximately 38 percent men from rural Maharashtra have said so.

6.3 Perception about HIV/AIDS avoidance

Almost three quarter of men who have heard of HIV/AIDS perceive that it can be avoided (Figure 4). This perception is higher in urban area of both the states but rural-urban differentials are significant in Uttar Pradesh.

Figure 4. Percentage of men who perceive HIV/AIDS can be avoided



Another important aspect of HIV/AIDS is perception i.e. how it can be avoided either through sexual behavior or others behavior. Table 3 provides an idea about the same. The rural-urban differential increases with the increase in age in Maharashtra in case of sexual behavior but there is no significant change with increase of age in Uttar Pradesh. The perception about avoiding HIV/AIDS either through sexual and other behavior increases with the increase in level of education in both the states but irrespective of level of education and states.

Table 3: Percentage of men who perceive HIV/AIDS can be avoided in through regulating sexual and other behavior in Maharashtra and Uttar Pradesh, 2005-06

Background Characteristics	Maharashtra		Uttar Pradesh		Maharashtra		Uttar Pradesh	
	Sexual Behavior				Other Behavior			
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Age Group								
Early Adulthood	35.2	40.8	32.2	46.6	79.6	80.0	77.5	79.5
Middle Adulthood	38.2	48.1	33.7	46.9	73.4	78.1	73.7	77.4
Late Adulthood	33.8	45.6	36.1	50.4	71.1	75.0	72.5	76.6
Education								
No Education	17.6	22.2	21.6	24.8	69.1	69.3	69.9	65.2
Primary	22.3	33.0	25.7	34.5	72.3	71.8	73.0	72.7
Secondary & Above	41.1	46.0	36.3	52.5	77.8	79.8	77.3	81.4
Marital status								
Never Married	35.5	39.9	29.8	46.9	80.5	80.8	79.6	80.7
Ever Married	36.4	47.2	34.9	47.4	73.9	77.0	73.7	76.8
Occupation								
Not Working	36.8	40.8	34.8	53.5	82.4	83.1	83.3	84.5
Technical & Services Sector	45.9	47.3	39.6	50.6	77.0	79.0	75.4	80.9
Agricultural & Manual Work	33.2	41.0	31.1	40.9	75.0	76.4	74.2	73.3
Caste								
SC/ST	25.9	41.1	31.1	44.8	74.9	77.9	75.7	76.5
OBC	41.6	45.3	32.2	43.1	77.4	76.7	76.2	77.4
Others	39.3	44.2	36.8	53.1	76.3	79.9	75.2	80.6
Religion								
Hindu	36.6	42.6	33.2	48.0	76.2	77.2	76.7	79.5
Muslim	24.8	47.6	32.1	44.1	63.4	84.1	70.4	75.2
Others	37.1	47.8	31.3	50.0	82.7	80.3	68.8	72.1
Wealth Index								
Quintile 1	20.8	7.7	26.4	34.7	70.9	85.2	75.4	73.5
Quintile 2	28.2	17.9	28.1	30.0	73.3	66.7	73.3	76.2
Quintile 3	36.9	27.3	34.8	42.3	79.3	67.8	76.3	72.2
Quintile 4	44.0	42.1	41.4	39.5	75.7	79.2	77.9	73.7
Quintile 5	50.8	49.3	44.6	55.4	81.1	80.6	81.1	83.3
Mass Media Exposure								
Low	9.6	6.5	22.9	53.1	61.5	84.4	57.6	49.0
Medium	28.7	34.2	27.8	33.8	73.9	74.9	73.3	73.1
High	43.0	47.9	40.0	54.1	78.7	79.9	79.9	82.1
Total	36.1	44.0	33.1	47.4	76.2	78.7	75.8	78.5

Around 70 percent men perceive that by regulating other behavior HIV/AIDS can be avoided. However rural urban differential is very small. Though no significant difference appears by residence background in case of never married men of Maharashtra but it increases many folds when married men of Maharashtra and never married as well as married man of Uttar Pradesh are considered. In case of other behavior the differential is very marginal. The differential by residence background in case of sexual behavior is more visible in Uttar Pradesh than Maharashtra when occupational status is considered. In case of caste it is observed that the differential is quite significant for all castes of Uttar Pradesh and SC/ST of Maharashtra. So far as sexual behavior is considered, it is evident from this table that perception increases with the increase in mass media exposure but significant differential exists in case Uttar Pradesh on considering low and high mass media exposure.

Table4 Percentage of men having accepting attitude for PLWHA in Maharashtra and Uttar Pradesh, 2005-06

Background Characteristics	Maharashtra		Uttar Pradesh	
	Rural	Urban	Rural	Urban
Age Group				
Early Adulthood	54.8	68.3	53.2	68.6
Middle Adulthood	45.5	63.5	41.4	62.7
Late Adulthood	39.6	55.8	38.7	57.1
Education				
No Education	26.1	30.7	28.3	41.7
Primary	33.5	45.7	32.9	51.4
Secondary & Above	55.4	68.4	54.1	70.9
Marital status				
Never Married	58.3	69.7	54.6	69.4
Ever Married	44.6	61.3	44.4	62.3
Occupation				
Not Working	61.9	72.5	59.8	75.7
Technical Services Sector	56.1	67.2	54.9	67.2
Agricultural & Manual Work	45.7	58.5	43.7	58.6
Caste				
Others	50.6	64.8	43.9	65.5
SC/ST	50.8	71.3	46.8	62.4
OBC	47.6	61.8	54.7	68.3
Religion				
Hindu	49.7	65.2	48.5	67.3
Muslim	43.1	63.0	44.1	57.9
Others	50.5	66.7	58.3	67.4
Wealth Index				
Quintile 1	26.0	32.4	17.8	28.1
Quintile 2	35.6	31.9	29.8	36.7
Quintile 3	41.8	40.8	39.8	46.9
Quintile 4	55.0	60.4	59.1	55.1
Quintile 5	63.7	70.3	68.3	70.2
Mass Media Exposure				
Low	22.1	32.6	29.2	47.9
Medium	35.7	47.3	39.0	54.5
High	61.2	71.5	60.2	71.5
Total	49.4	65.0	48.1	65.3s

Larger proportion of urban males in Maharashtra as well as in UP has accepting attitude for PLWHA but these decreases as the age increases. The differential is more in case of men from Maharashtra and Uttar Pradesh hailing from middle adulthood group in rural as well as urban areas as is seen in Table 4.

Lesser proportion of married men irrespective of residence background in Maharashtra and Uttar Pradesh has accepting attitude for PLWHA. The differential is slightly more in case of married men than never married. In case of occupation this accepting attitude for PLWHA is more prominent in case of agriculture and manual workers of Maharashtra and not working and agriculture and manual workers of Uttar Pradesh. Similarly the differential is more among Muslims of Maharashtra and Hindus of Uttar Pradesh. Wealth index by different quintiles do not present any significant difference

except in case of first quintile for Uttar Pradesh. As usual men having high mass media exposure have higher accepting attitude for PLWHA but the differential decreases in Uttar Pradesh as the exposure increases.

6.4 Determinants of Comprehensive knowledge

To assess the factors which are associated with determining comprehensive knowledge about HIV/AIDS logistic regression model has been used (Table 5). In case of both Maharashtra and Uttar Pradesh, odds ratio show that rural men who have attained secondary and above education are more than two times more likely than those who have no education to have comprehensive knowledge of HIV/AIDS. For Uttar Pradesh higher education plays significant role in comprehensive awareness in both urban and rural areas.

Table5: Odds of Comprehensive knowledge about AIDS, among men living in Maharashtra and Uttar Pradesh, 2005-06

Independent variable	Dependent Variable: Comprehensive Knowledge of AIDS			
	Maharashtra		Uttar Pradesh	
	Rural	Urban	Rural	Urban
Age Group				
Early Adulthood®	1.00	1.00	1.00	1.00
Middle Adulthood	0.96	0.97	0.95	0.91
Late Adulthood	0.84	0.85	0.77*	0.74*
Education				
No Education®	1.00	1.00	1.00	1.00
Primary	1.18	0.89	1.10	1.15
Secondary & Above	2.35***	1.56*	2.45***	2.15***
Marital status				
Never Married®	1.00	1.00	1.00	1.00
Ever Married	0.93	1.02*	0.95	1.17*
Occupation				
Not Working®	1.00	1.00	1.00	1.00
Technical & Services Sector	1.15	0.94	1.07	0.89
Agricultural & Manual Work	0.96	0.94	0.92	0.72**
Caste				
Others®	1.00	1.00	1.00	1.00
SC/ST	1.00	0.81*	0.77	0.88
OBC	0.99	0.97	0.78**	0.84*
Religion				
Hindu®	1.00	1.00	1.00	1.00
Muslim	1.07	0.89	1.04**	0.80**
Others	1.07	1.21**	1.58**	1.15
Wealth Index				
Quintile 1®	1.00	1.00	1.00	1.00
Quintile 2	1.14	1.68	1.21*	1.20
Quintile 3	1.56**	1.46	1.39**	1.64
Quintile 4	1.77**	2.13*	2.35***	1.73
Quintile 5	2.39***	2.96**	2.80***	2.44*
Mass Media Exposure				
Low®	1.00	1.00	1.00	1.00
Medium	2.17**	2.10**	1.94**	1.29*
High	2.88**	3.44***	1.07	2.32**
-2 Log Likelihood	2713.050	7600.434	4967.914	1723.023

Note: ® Reference category

*** (p<0.01), ** (p<0.05), * (p<0.1)

Rural men from Uttar Pradesh belonging to Muslim and Other religion are 4 percent and 58 percent more likely compared to Hindu to have comprehensive knowledge. In rural Maharashtra as well as in Uttar Pradesh, compared to men belonging to Quintile 1, men from other quintiles have significantly higher knowledge. In urban Maharashtra men belonging to quintile 5 have almost three times more comprehensive knowledge than those belonging to quintile 1. Similarly men belonging to higher quintiles are more likely to have comprehensive knowledge compared to quintile 1 in rural Uttar Pradesh. Exposure to mass media has significant impact in Maharashtra (both in urban and rural areas) but in case of Uttar Pradesh, only in urban area mass media exposure plays any role in explaining comprehensive knowledge in comparison to men with low exposure. In rural Uttar Pradesh men having medium exposure to mass media are having higher odds of comprehensive knowledge than low exposure men.

6.5 Factors associated with knowledge of HIV/AIDS Avoidance

Table 6 shows odds ratio from logistic regression to determine the factors which are associated with perception about HIV/AIDS avoidance for both the states in rural and urban areas respectively. It has been found that secondary and above educated men belonging to rural and urban areas of Uttar Pradesh and Maharashtra was more likely to know that HIV/AIDS can be avoided in comparison to their respective counterparts in all the models. Marital status do play role in knowledge of HIV/AIDS avoidance but only in urban areas of both states.

Ever married men from urban Uttar Pradesh and Maharashtra are 32 percent and 26 percent respectively more likely to have knowledge of ways of avoiding AIDS compared to never married men. Agricultural and manual workers from rural and urban Uttar Pradesh are 65 and 75 percent less likely to know that the disease can be avoided. Men belonging to SC/ST category from urban Uttar Pradesh are 30 percent more likely to know about avoidance in comparison to others while in rural U.P. caste do not have significant affect on it. In contrast to this finding, SC/ST men from rural Maharashtra are 33 percent less likely to know about avoidance of AIDS compared to others.

Table 6: Odds of knowledge about avoiding AIDS among men living in Maharashtra and Uttar Pradesh, 2005-06

Independent variables	Dependent Variable : whether HIV/AIDS can be avoided or not			
	Maharashtra		Uttar Pradesh	
	Rural	Urban	Rural	Urban
Age Group				
Early Adulthood®	1.00	1.00	1.00	1.00
Middle Adulthood	0.96	0.94	0.95	1.05
Late Adulthood	0.83	0.79*	0.86	0.94
Education				
No Education®	1.00	1.00	1.00	1.00
Primary	1.19	1.26	1.15	1.29
Secondary & above	1.60*	1.63**	1.46*	2.41***
Marital status				
Never Married®	1.00	1.00	1.00	1.00
Ever Married	0.95	1.26*	1.22	1.32*
Occupation				
Not Working®	1.00	1.00	1.00	1.00
Technical Services Sector	0.92	0.95	0.76	0.85
Agricultural & Manual Work	0.81	0.87	0.65**	0.75**
Caste				
Others®	1.00	1.00	1.00	1.00
SC/ST	0.67**	0.91	1.16	1.30**
OBC	0.89	0.90	1.14	0.93
Religion				
Hindu®	1.00	1.00	1.00	1.00
Muslim	0.30***	1.48**	0.89	0.99
Others	1.87**	1.23*	0.40**	1.86
Wealth Index				
Quintile 1®	1.00	1.00	1.00	1.00
Quintile 2	1.25	0.84	0.95	0.65
Quintile 3	1.77*	0.79	1.35**	0.90
Quintile 4	1.57*	1.16	1.39*	0.79
Quintile 5	1.78**	1.65	1.69**	0.94
Mass Media Exposure a				
Low®	1.00	1.00	1.00	1.00
Medium	4.40**	1.97	2.02*	1.33
High	5.04***	3.23**	3.29***	2.13**
-2 Log Likelihood	1723.023	4809.868	3304.370	3584.152

Note: ® Reference category

*** (p<0.01), ** (p<0.05), * (p<0.1)

Religion also plays a significant role in determining mens perception about HIV/AIDS avoidance. In case of rural Maharashtra, Muslims are 70 percent less likely to know about HIV/AIDS avoidance in comparison to Hindu while men belonging to other religion have higher odds of knowledge about it.

In rural Uttar Pradesh men belonging to other religion are 60 percent less likely to know about avoidance. Only in rural area wealth is playing role in both the states. Similarly, exposure to mass media among men has impact in determining knowledge about HIV/AIDS.

6.6 Factors associated with Accepting attitude of men towards PLWHA

Table 7 shows odds ratio from logistic regression to determine the factors which are associated with perception accepting attitude of men towards PLWHA for both the states in rural and urban areas respectively.

Table7: Odds of Accepting attitude of men for PLWHA in two selected states, 2005-06.

Independent variables	Dependent variable: Accepting Attitude toward PLWHA			
	Maharashtra		Uttar Pradesh	
	Rural	Urban	Rural	Urban
Age Group				
Early Adulthood®	1.00	1.00	1.00	1.00
Middle	0.99	0.93	0.71***	0.88
Late Adulthood	0.78	0.63**	0.58***	0.62***
Education				
No Education®	1.00	1.00	1.00	1.00
Primary	1.17	1.05	1.01	1.20
Secondary & Above	1.44*	1.27	1.46**	2.09***
Marital status				
Never Married®	1.00	1.00	1.00	1.00
Ever Married	0.73**	0.93	0.98	1.17**
Occupation				
Not Working®	1.00	1.00	1.00	1.00
Technical Services Sector	0.90	0.92	1.06	0.88
Agricultural & Manual Work	0.95	0.92	0.93	0.77**
Caste				
Others®	1.00	1.00	1.00	1.00
SC/ST	1.63***	1.17	1.02	1.14
OBC	1.11	1.49***	1.02	0.90
Religion				
Hindu®	1.00	1.00	1.00	1.00
Muslim	0.92	1.21**	0.98	0.76**
Others	0.95	1.37**	0.88	0.75
Wealth Index				
Quintile 1®	1.00	1.00	1.00	1.00
Quintile 2	1.06	0.82	1.29*	0.804
Quintile 3	0.97	0.88	1.17	1.15
Quintile 4	1.40*	1.04	1.95***	1.16
Quintile 5	1.55*	1.32	2.41***	0.99
Mass Media Exposure				
Low®	1.00	1.00	1.00	1.00
Medium	1.17	1.20	1.28	1.38**
High	2.17**	2.10**	1.94**	1.29*
Comprehensive Knowledge				
No®	1.00	1.00	1.00	1.00
Yes	3.97***	4.03***	3.98**	3.39***
-2 Log Likelihood	2553.135	6686.699	5216.757	6007.33

Note: ® Reference category

*** (p<0.01), ** (p<0.05), * (p<0.1)

It has been found that middle adulthood and late adulthood men in rural Uttar Pradesh are almost 40 and 30 percents less likely to have accepting attitude towards PLWHA and in urban areas of both the states almost 30 percent men from late adulthood ages have accepting attitude towards PLWHA compared to their respective counterparts. As such in all the setting only secondary and above level educated men have played some role in accepting people who may be suffering from the disease. SC/ST men are 1.63 times more likely to have accepting attitude compared to others caste group in rural Maharashtra while in urban Maharashtra, men from OBC caste have higher odds of having accepting attitude. Similarly men from Muslim and other religion are more likely to have accepting attitude while the situation is opposite in case of Uttar Pradesh. Only high level of mass media exposure has significant role in shaping accepting attitude of men in all the models. Apart from above selected background characteristics, comprehensive knowledge comes out as one of the major factors determining the accepting attitude of men towards PLWHA.

7 Summary & Conclusion

The present study has observed rural-urban differentials in knowledge of HIV/AIDS, though there has been a significant good level of awareness towards HIV/AIDS but more sustained efforts are needed for comprehensive knowledge among

men as still a lot of misconceptions are prevalent in the society. One of the major sources of information which has been reported by almost all the men is mass media even in rural areas of both the states. Thus, it is important to focus on the role of mass media so that right messages can be spread out to eradicate prevalent misconceptions. Apart from mass media exposure, secondary and above education has come out as an important predictor of comprehensive knowledge among men in both the states but its impact is higher in case of rural areas. Similarly for accepting attitude towards PLWHA, higher education is playing significant role specifically in urban Uttar Pradesh. By religion and caste group, no uniform impact has been found in rural and urban areas of both states; it may be because of their different type of composition in the population. It has been found that accurate knowledge of HIV/AIDS transmission and prevention comes out as an important factor for determining men's positive attitude towards PLWHA and it is also found that young men are more of accepting nature to these stigmatized people. Thus a significant implication of the study may be inclusion of young men in awareness program run by government and apart from this education must be focused to spread out right messages about HIV/AIDS prevention and misconceptions and people living with it.

8 Policy Implications

- The study indicates that there is differential in knowledge awareness and perception about PLWHA according to residence background, level of education and mass media exposure.
- As such there is an urgent need to increase awareness by educating people creating mass media exposure such as providing more TVs and Radios etc. at the lowest grass root level i.e. in villages and anganwadi centers.

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