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RESEARCH ARTICLE

PERCEIVED STIGMA AND DISCRIMINATION TOWARDS PLHAS AMONG YOUNG PEOPLE IN TAMIL NADU, INDIA: EVIDENCE FROM BEHAVIOR SURVEILLANCE SURVEY

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ABSTRACT

In India, prevalence of HIV/AIDS is relatively high and very little is known in the context of HIV/AIDS related stigma and discrimination. To prevent HIV/AIDS associated stigma and discrimination, it is important to understand the factors related to stigma and discrimination towards People Living with HIV/AIDS (PLHAS) in India. A community based survey of 796 male youth in urban slum aged 18-23 years is conducted in Tamil Nadu. Univariate analyses and multivariate logistic regression analyses are used to determine the perceived stigma and discrimination towards PLHAS and the factors associated with stigma and discrimination. Sixty percent of respondents perceived any one stigma and discrimination towards PLHAS. The respondents perceived that PLHAS as characterless (43.5 percent), they will not continue friendship or relationship with them (41.1 per cent), and they have to be isolated (21.2 percent). Multivariate analysis suggests that below 21 years of male youth, primary and below, those who never involved in sexual activities and misconception related knowledge of HIV/AIDS prevention are significantly more likely to state perceived stigma towards PLHAS. Therefore, all interventions need to address stigma and discrimination as part of their focus and behavior change communication also need to address HIV/AIDS related stigma and discrimination in order to bring change in the behavior among youth slum towards PLHAS.

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INTRODUCTION

The first case of AIDS was reported in the early 1980s. In 2009, an estimated 33.3 million people (adult and children) are living with HIV/AIDS and 1.8 million people have already lost their lives due to HIV/AIDS across the world. In India, more than 2.4 million people are living with HIV/AIDS (PLHAS) and only 0.32 million people are received antiretroviral therapy (ART) service for HIV (UNAIDS, 2010). A large number of infected individuals are not receiving ART services due to stigma and discrimination. Stigma is defined as extremely discrediting attribute about an individual or group that serves to devalue that person or group in the eyes of the society (Goffman, 1963; Weiss and Ramakrishna, 2006). Stigma and discrimination fuel the HIV/AIDS epidemic by creating a culture of secrecy, isolated, abused, silence, ignorance, blame, shame and victimization (Taylor, 2001; Weiss and Ramakrishna, 2006). It can lead to discrimination, where people are treated less well because of their characteristic. The levels of stigma are measured into two types: perceived or existential stigma, and enacted or achieved stigma (Malcom, *et al.*, 1998; Scrambler, 1998; Falk, 2001; Priya and Sathyamala, 2007; Steward *et al.*, 2008; Subramanian, *et al.*, 2009; Brems, 2010). Most of the studies reported self experience or fear of stigma by general

community members or friends and acquaintances, followed by health providers (Yu *et al.*, 2009; Zukoski and Thorburn, 2009). Stigmatizing behaviors are primarily associated with fear of HIV/AIDS rather than with the route of epidemic (Cao *et al.*, 2006). According to UNAIDS, HIV-related stigma and discrimination is "... a 'process of devaluation' of people either living with or associated with HIV and AIDS. Discrimination follows stigma and is the unfair and unjust treatment of an individual based on his or her real or perceived HIV status" (UNAIDS, 2003). Stigma often heightens existing prejudices and inequalities. HIV-related stigma tends to be most debilitating for people who are already socially marginalized and closely associated with HIV and AIDS, such as sex workers, men who have sex with men, injecting drug users, and prisoners (Link and Phelan, 2001; Parker and Aggleton, 2003).

In health related stigma, the judgment is based on an enduring feature of identity conferred by a health problem or health related condition (Weiss and Ramakrishna, 2006). HIV/AIDS is a highly stigmatized health condition-people living with HIV/AIDS are more likely to be discriminated against than patients with most other health conditions. HIV/AIDS stigma is a social construction founded on a mixture of myths, misinformation, fear and ignorance, as well as some real life experiences of the disease (Harriet and Andrew, 2006). Globally, stigma and discrimination have been identified as

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tremendous obstacles to addressing the epidemic of HIV/AIDS (Mann, 1987; Busza, 1999; UNAIDS, 2001, 2008; APN+, 2004; Reidpath *et al.*, 2005). The theoretical frameworks explain that stigmatization and discrimination are manifest in a number of contexts, including within family, community, religious group, schools, workplace, travel or migration, media, healthcare settings and HIV/AIDS programmes (Malcolm *et al.*, 1998; Parker and Aggleton, 2002; Reidpath *et al.*, 2005; Pradhan *et al.*, 2006 and Holzemer, *et al.*, 2007). Stigma not only makes it more difficult for people trying to come to terms with HIV and manage their illness on a personal level, but it also interferes with attempts to fight the epidemic as a whole. HIV/AIDS-related stigma is not a straightforward phenomenon as attitudes towards the epidemic and those affected vary massively. Stigma associated with HIV infection can unfavorably impact the quality of life and behavior of people living with HIV/AIDS (Bunn *et al.*, 2007).

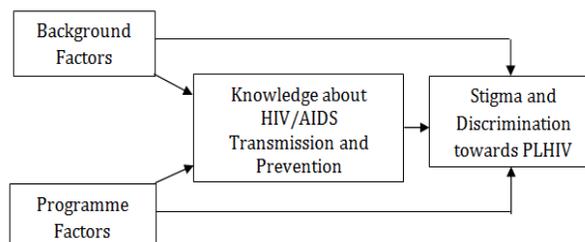
Abell *et al.*, (2007) indicates that HIV/AIDS provider stigma has been understudied in the context of prevention, testing, and treatment and hence improved measurement and incorporation of mindfulness techniques in stigma intervention are needed. Kang *et al.*, (2005) states that HIV-related stigma is largely due to ingrained socio-cultural norms that strongly associate HIV transmission with activities perceived to be immoral. It also indicates social rejection, negative self-worth, perceived interpersonal insecurity, and financial security were all significantly associated with psychological distress. Emlet, (2006), study examines social networks and social isolation and concludes that having a confidant and receiving instrumental support were significantly correlated with reduced HIV stigma. There is a relationship between age, HIV-related stigma, and patterns of disclosure. Women are the fastest-growing population living with HIV/AIDS, and they often experience HIV stigma within the context of poverty (Abel, 2007). A study by Buseh and Stevens, (2006) explains that women experienced HIV/AIDS-related stigma on multiple levels, manifested internally as existential despair, socially as shunning and callousness, and institutionally as disregard. A community based study found that 72.3 percent said that an HIV positive co worker should not be allowed to continue work, they were not willing to care for family members (34.2 percent) and 27.2 percent reported that it should not be kept a secret if a family member is sick with HIV (Hardee *et al.*, 2009). A study by Letamo, 2004, observed that 68.6 percent express they would not buy vegetables from an HIV/AIDS patient and HIV/AIDS positive teacher should not be allowed to teach even though they may not be sick (53.6 percent). Recent study observed that 81.9 percent of participants reported that they would not allow their children to play with a child infected with HIV/AIDS, and they would not buy fresh vegetables from a stall-keeper with HIV/AIDS. Over half of them said that they would not allow a teacher with HIV to continue teaching in school and would not keep away from a neighbor with HIV. In addition, those who score higher on risk misconception, older and married are the strongest predicate of discriminatory attitudes towards persons with HIV/AIDS (Qian *et al.*, 2007). The National Family Health Survey -3 (NFHS-3) report shows that men tend to express that negative attitudes in response, they would not willing to care for a family member with HIV/AIDS (33.0 percent), they would not buy fresh vegetables from a

shopkeeper with HIV/AIDS (37.6 percent), they would not keep secret that a family member is infected with HIV/AIDS (34.7 percent), and they would not allow a female teacher with HIV/AIDS who is not sick (29.2percent) (IIPS and Macro International, 2007). Stigma and discrimination against PLHIV are primarily due to low level of community awareness about the epidemic, sources of epidemic, routes of transmission, and prevention. Bharat *et al.*, (2001) states that negative response and attitudes towards PLHAs are strongly linked to general levels of knowledge about HIV/AIDS and, specifically to the causes of HIV/AIDS and modes of transmission. There is a need for measures at the general population level that are unambiguous about the cause of the stigmatizing behavior, that capture enacted stigma (discrimination), and that can distinguish compound (layered) stigma (Nyblade, 2006). In addition, studies are needed in a wider variety of contexts and on a larger scale that include a comprehensive set of measures to capture the complexity of HIV/AIDS related stigma and discrimination. It is worth mentioning that studies of perceived stigma and discrimination towards HIV/AIDS and its determinants are very limited in India. The present study attempts to analyse the level of perceived stigma and discrimination towards people living with HIV/AIDS among male youth in urban slums in Tamil Nadu, and to examine the influences socio-economic and demographic, behaviour, and programmatic factors on perceived stigma related to HIV/AIDS. An understanding of the association between perceived stigma and discrimination towards PLHIV and socio-economic and programmatic factors can afford valuable information for researcher, implementing agencies and policy makers who are concerned with improving the health status of infected individuals in Tamil Nadu.

ANALYTICAL FRAMEWORK

Many researchers have identified a number of factors such as place of residence, age of men, education, occupation, ever had sexual intercourse, knowledge of HIV/AIDS misconception (sharing needles can transmit HIV/AIDS infection, transfusion of untested/unsafe blood can transmit HIV/AIDS infection, HIV/AIDS can be transmitted from pregnant mother to unborn child, condom can reduce contacting HIV/AIDS infection, using disposable needles/syringes can transmit HIV/AIDS infection, person can get HIV/AIDS infection by having one partner), aware of integrated counseling and testing centre services, aware of any NGOs providing HIV education/prevention services, any social/health workers discussed about HIV/AIDS, and preference of public health facilities for some health problems etc. which can influence levels of stigma and discrimination, particularly people living with HIV/AIDS.

Figure 1: Analytical Framework



The socio-economic, demographic, and programmatic factors may directly or indirectly influence the level of stigma and discrimination (Malcolm *et al.*, 1998; Busza, 1999; Bharat *et al.*, 2001; Parker and Aggleton, 2002; Letamo, 2004; Abell *et al.*, 2007; Hardee *et al.*, 2009). The present study considers the proposed analytical framework for stigma and discrimination towards HIV/AIDS (Figure 1). For example, men residing in non-metropolitan cities, less educated, and unemployed are less exposed to media and other knowledge thereby leading to stigma and discrimination. Education is one of the major factors that can be reducing stigma and discrimination at the individual or community levels. It is expected that with an increase in the level of education of male youth, there will be an increase in their knowledge about modes of transmission thereby improving their knowledge on HIV/AIDS. Programmatic factors have a fundamental role to play in knowledge of mode of transmission and availability of services etc. A weak programme may contribute to high level of stigma and discrimination. For example, the negative response and attitudes towards PLHAS are strongly linked to general levels of knowledge about HIV/AIDS. On the other hand, a better programme may lead to more aware of mode of transmission and low levels of stigma and discrimination

MATERIALS AND METHODS

Data for this study are drawn from the 12th round of the Behavior Surveillance Survey (BSS), Tamil Nadu, India, which was carried out between February 2009 and May 2009 and conducted by AIDS Prevention and Control Project (APAC)-Voluntary Health Services (VHS), Tamil Nadu, India. The survey adopted multistage random sample and a two stage sampling was adopted for selecting young men for the study. First stage, five urban slums were selected in the sample with probability proportional to population size (PPS). At the second stage, households were selected using systematic stratified sampling within each selected urban sites so that sample would be 800 young men in the age group of 18-23 years. One eligible person was randomly selected per household. In situations where the selected respondent was not available for the interview, interviewers made as many as three attempts to reach selected individuals. The sample size for the analysis was 796 unmarried young men in the age group of 18-23 years in urban slum of Tamil Nadu, India (Chennai, Coimbatore, Madurai, Trichy, and Tuticorin). In the BSS survey, information on knowledge, opinion and attitude towards STIs, HIV and AIDS, prevalence of STD and treatment seeking, access to health care, awareness of condom, sexual history with number of partners, condom procurement, risk perception and VCTC, stigma and discrimination, migration, non-usage of condom, and awareness of NGOs etc. were collected in detail using structured interview schedules. Besides, the survey also collected information on socio-economic and demographic characteristics of respondent.

This analysis is based on descriptive statistics and multivariate techniques. The descriptive analysis is used to show unadjusted spatial, socio-economic, demographic, programmatic, knowledge and behavior factors differentials of self-perceived stigma and discrimination towards PLHAS. The technique of binary logistic regression model has been applied to assess net effect on self-perceived stigma and discrimination towards PLHAS of background characteristics,

since the response variables are dichotomous (binary) for perceived stigma and discrimination towards PLHAS. The dependent variables for analysis are binary, coded 1 if the respondent reported any perceived stigma and discrimination towards PLHAS and 0 coded if not perceived stigma and discrimination towards PLHAS. In this present paper four types of stigma and discrimination variables are modeled: whether the respondent perceived PLHAS is characterless or not; whether the respondent perceived PLHAS should not be continue friendship or relationship or not; whether the respondent perceived PLHAS should be isolated or not; and whether the respondent perceived any one or more types of stigma and discrimination (perceived PLHAS is characterless or PLHAS should not be continue friendship or relationship or PLHAS should be isolated or PLHAS should not be treated the same as everyone in the hospital or PLHAS should not be provided good treatment and emotional support or PLHAS should not be give care and support). All above four variables are taken as dependent variables in the both bivariate and multivariate analyses. As the bivariate analyses only provide the gross differentials, regression analysis is needed to assess the net effect of the individual predictor on the response variable. Self perceived stigma and discrimination is studied by using four sets of multivariate logistic regression models for four dichotomous dependent variables. This technique examines the potential strengths of socio-economic and demographic variables in explaining the self perceived stigma and discrimination.

The predictor variables included in the regression models for self-perceived stigma and discrimination towards PLHAS are: place of residence, age of men, education, occupation, ever had sexual intercourse, sharing needles can transmit HIV/AIDS infection, transfusion of untested /unsafe blood can transmit HIV/AIDS infection, HIV/AIDS can be transmitted from pregnant mother to unborn child, Condom can reduce contacting HIV/AIDS infection, using disposable needles/syringes can transmit HIV/AIDS infection, person can get HIV/AIDS infection by having one partner, aware of integrated counseling and testing centre (ICTC) services, aware of any NGOs providing HIV education/prevention services, Any social/health workers discussed about HIV/AIDS in the last year, and preference of public health facilities for any health problems. However, an income category is not included in the multivariate analysis as an independent variable because of its high correlation with the occupation of respondent. These variables are expected to influence perceived stigma and discrimination in many ways, which have already been mentioned in the literature. It has been observed that level of stigma and discrimination towards PLHAS can be influenced by socio-economic, demographic, and programmatic factors. The following variables have been chosen in the study:

- **Socio-economic factors:** Place of residence, education level, and work status
- **Demographic factor:** Age
- **Programmatic factors:** Aware of ICTC services, aware of NGO providing HIV education and prevention services, any social or health worker discussed about HIV/AIDS in the last year, and preference of public health facilities for some health problems

- **Knowledge about HIV/AIDS Prevention and Transmission factors:** Condom can reduce contacting HIV/AIDS infection, using disposable needles/syringes can transmit HIV/AIDS infection, person can get HIV/AIDS infection by having one partner, sharing needles can transmit HIV/AIDS infection, transfusion of untested/unsafe blood can transmit HIV/AIDS infection, and HIV/AIDS can be transmitted from pregnant mother to unborn child
- **Behavioural factor:** Ever had sexual intercourse

RESULTS AND DISCUSSION

Sample Characteristics

Table 1 presents sample characteristics. More than three-fifths (62.4 percent) of the respondents are residing in metropolitan city (Chennai), while the remaining 37.6 per cent are residing in non-metropolitan cities (Coimbatore, Madurai, Trichy, and Tuticorin). The median age of the respondents is 21 years of age. About seventy percent of (69.8 percent) of the respondents have completed middle and above level of education. Majority of respondents are employed (86.7 per cent), while only 13.3 percent are unemployed. In term of sexual behaviour, 45.7 percent of respondents reported ever had sexual intercourse. Almost of all the respondents are aware of HIV/AIDS.

Table 1: Percentage distribution of sample characteristics of the respondents in Tamil Nadu, India

Background characteristics	Percentage	No. of respondents
Residence		
Metropolitan city	62.4	497
Non-Metropolitan city	37.6	299
Age of respondent (Year)		
< 21 years	45.1	359
> 21 years	54.9	437
Median age at respondents : 21 years		
Education		
Primary & below	30.2	240
Middle & above	69.8	556
Occupation		
Employed	86.7	690
Unemployed	13.3	106
Ever had sexual intercourse		
Yes	45.7	364
No	54.3	432
Total number of Respondent	100.0	796

Regarding knowledge of HIV/AIDS transmission, about one-third (34.2 percent) of the respondents reported sharing needles transmit HIV/AIDS, followed by transfusion of untested or unsafe blood transmit HIV/AIDS (45.0 percent), and HIV/AIDS can be transmitted from pregnant mother to unborn child (17.7 percent). In the case of prevention of HIV/AIDS, 85.8 per cent of respondents reported that using condom can prevent HIV/AIDS infection, using disposable needle/syringes can prevent HIV/AIDS transmission (59.7 percent), and HIV/AIDS transmission can be prevented by having one partner (50.5 per cent). Respondents knowledge on HIV related information and services, a little over one-third (35.1 percent) of the youth in slums are aware about ICTC services, they also have received HIV/AIDS related information and prevention services through NGOs (26.6

percent) and social worker/health worker (25.3 percent) while majority (90.5 percent) of the respondents prefer public health facilities for any health problems.

Level of Stigma and Discrimination towards PLHAS

The self perceived stigma and discrimination towards PLHAS among male youth in slums are measured through six questions such as PLHAS is characterless, should not continue friendship or relationship with PLHAS, PLHAS should be isolated, PLHAS should not be treated the same as everyone in the hospital, PLHAS should not be provided good treatment and emotional support, and PLHAS should not be given care and support. Out of 796 respondents, three-fifths (60.6 percent) of the respondents perceived some type of stigma and discrimination towards PLHAS (Table 3). The respondents perceived that PLHAS as characterless is 43.5 percent, followed by they will not continue friendship or relationship with them (41.1 per cent), they have to be isolated (21.2 percent), they should not be given the same type of treatment in hospitals (2.4 percent), they should not be provided with good medical treatment and emotional support (1.8 per cent) and perceived that PLHAS should not be given care and support (0.4 percent). In order to see the severity in the levels of perceived stigma and discrimination towards PLHAS among those who reported any perceived stigma and discrimination, 1.5 percent reported that they perceived four or

more type of stigma and discrimination while one-fifths (24.5 percent) had perceived three types of stigma and discrimination towards PLHAS (not shown in Table).

Differentials of Stigma and Discrimination towards PLHAS

Table 4 shows that percentage of male youth perceived stigma towards PLHAS by socio-economic, demographic, and programmatic factors, Tamil Nadu, India. The levels of perceived stigma and discrimination are significantly higher among those from metropolitan city, those who are below 21 years, had middle and above level of education, unemployed, and those who ever had sexual intercourse than their counterpart. The youth with erroneous belief on modes of

Table 2: Percentage distribution of knowledge related to HIV/AIDS and awareness of ICTC services in Tamil Nadu, India

Knowledge indicators	Percentage	No. of respondents
Sharing needles can transmit HIV/AIDS infection		
Yes	34.2	272
No	65.8	524
Transfusion of untested /unsafe blood can transmit HIV/AIDS infection		
Yes	45.0	358
No	55.0	438
HIV/AIDS can be transmitted from pregnant mother to unborn child		
Yes	17.7	141
No	82.3	655
Condom can reduce contacting HIV/AIDS infection		
Yes	85.8	683
No	14.2	113
Using disposable needles/syringes can transmit HIV/AIDS infection		
No	59.7	475
Yes	40.3	321
Person can get HIV/AIDS infection by having one partner		
No	50.5	402
Yes	49.5	394
Aware of integrated counseling and testing centre (ICTC) services		
No	64.9	517
Yes	35.1	279
Total number of Respondent	100.0	796

Table 3: Type of Self-perceived stigma and discrimination towards HIV/AIDS Infected individuals in Tamil Nadu, India

Type of self-perceived stigma and discriminations	Percentage
People living with HIV/AIDS is characterless	43.5
People living with HIV/AIDS should not be continue friendship or relationship	41.1
People living with HIV/AIDS should be isolated	21.2
People living with HIV/AIDS should not be treated the same as everyone in the hospital	2.4
People living with HIV/AIDS should not be provided good treatment and emotional support	1.8
People living with HIV/AIDS should not be give care and support	0.4
Any stigma and discrimination	60.6
No. of Respondent	796

transmission and prevention are noticeably higher in level of perceived stigma and discrimination towards PLHAS. Those who are aware about ICTC services, those who had received HIV/AIDS related information and prevention services through NGOs have less perceived stigma. Likewise, those who prefer public health facilities for some health problems have considerably less (57.9 per cent) perceived stigma than others (85.5 per cent).

Determinants of Stigma and Discrimination towards PLHAS

To assess the independent effect of various selected background characteristics on the probability of a man reporting perceived stigma and discrimination towards PLHAS, a logistic regression model was applied. Table 5 shows the result of logistic regression models for perceived stigma and discrimination towards PLHAS by selected socio-economic, demographic, and programmatic factors in South India. It can be seen from Table 5 that men residing in non-metropolitan cities are significantly more likely to perceive that PLHAS is characterless than those residing in metropolitan city. Among those who never had sexual intercourse are significantly more likely to state that PLHAS is characterless compared to those who ever had sexual intercourse when other variables are controlled. Another noteworthy observation is that those who did not know that HIV/AIDS can be transmitted from pregnant mother to unborn

child are significantly more likely to perceive that PLHAS is characterless than those who did not have this fallacy. It is therefore evident that men who lack in understanding the modes of transmission are significantly more likely to perceive stigma and discrimination towards PLHAS. Among prevention factors, those who are aware that condom use can reduce contacting HIV/AIDS infection are more likely to perceive stigma and discrimination compared to reference category when other factors are controlled. Those male youth who report that person can get HIV/AIDS infection by having one partner are significantly less likely to state that PLHAS is characterless. Among male slum youth who are aware of ICTC services and those who prefer public health services for some health problems are significantly less likely to perceive that PLHAS living with HIV/AIDS is characterless. There are no significant effects of age, education, occupation, sharing needles can transmit HIV/AIDS infection and transfusion of untested or unsafe blood can transmit HIV/AIDS infection on perceiving PLHAS as characterless. As shown in Table 5, those residing in non-metropolitan cities are significantly less likely to express negatives attitudes toward a PLHAS than those who residing in metropolitan cities. The odds of reporting self perceived stigma and discrimination related to PLHAS should be isolated are with young men with primary and below level of education. Among those who never involved in sexual activities are significantly more likely to state that PLHAS should be isolated compared to reference category. Young men who have misconceptions (HIV/AIDS

Table 4: Percentage of male youth perceived stigma towards HIV infected person by selected background characteristics, Tamil Nadu, India

Background characteristics	HIV/AIDS infected person is characterless	HIV/AIDS infected person should be isolated	Continue relationship with infected friends / relatives	Any stigma and discrimination	No. of male interviewed
Residence					
Metropolitan city	36.2	26.4	42.3	53.9	497
Non-metropolitan city	55.5	12.7	39.1	71.6	299
Age of respondent					
< 21 years	46.5	24.2	47.6	65.7	359
> 21 years	41.0	18.8	35.7	56.3	437
Education					
Primary & below	45.0	34.2	62.9	49.6	240
Middle and above	42.8	15.6	59.5	37.4	556
Occupation					
Employed	45.1	21.3	62.0	43.2	690
Unemployed	33.0	20.8	50.9	25.5	106
Ever had sexual intercourse					
Yes	33.8	16.2	37.4	51.9	364
No	51.6	25.5	44.2	67.8	432
Sharing needles can transmit HIV/AIDS infection					
Yes	38.6	12.9	37.9	62.5	272
No	46.0	25.6	42.7	59.5	524
Transfusion of untested /unsafe blood can transmit HIV/AIDS infection					
Yes	34.4	19.6	29.6	47.2	358
No	50.9	22.6	50.5	71.5	438
HIV/AIDS can be transmitted from pregnant mother to unborn child					
Yes	29.8	14.2	36.2	50.4	141
No	46.4	22.7	42.1	62.7	655
Condom can reduce contacting HIV/AIDS infection					
Yes	40.0	22.7	41.0	58.4	683
No	64.6	12.4	41.6	73.5	113
Using disposable needles/syringes can transmit HIV/AIDS infection					
No	45.7	25.5	42.9	60.4	475
Yes	40.2	15.0	38.3	60.7	321
Person can get HIV/AIDS infection by having one partner					
No	47.8	27.6	49.0	67.2	402
Yes	39.1	14.7	33.0	53.8	394
Aware of ICTC services					
No	47.8	20.1	42.2	64.2	517
Yes	35.5	23.3	39.1	53.8	279
Aware of any NGOs providing HIV education /prevention services					
No	45.9	18.7	41.1	63.2	584
Yes	36.8	28.3	41.0	53.3	212
Any social/health workers discussed about HIV/AIDS in the last year					
No	44.2	17.1	40.3	62.4	595
Yes	41.3	33.3	43.3	55.2	201
Preference of public health facilities for any health problems					
No	64.5	44.7	56.6	85.5	76
Yes	41.3	18.8	39.4	57.9	720
Total number of Respondent	43.5	21.2	41.1	60.6	796

can be transmitted by sharing needles) are more likely than their counterparts to state that PLHAS should be isolated. On the other hand, those who believed that a person can get HIV/AIDS infection by having one partner are significantly less likely to say that infected individuals should be isolated than those who did not have this misconception. In addition, those who prefer public health services or facilities for any health problems are less likely to perceive that PLHAS should be isolated. It can be noted that age, education, and aware of ICTC services, aware of any NGOs providing HIV education/prevention services does not have any significant effect on the perception that PLHAS should be isolated.

The probability of perceiving that not to continue relationship with infected friends or relatives are significantly higher among males in the age group of less than 21 years and those who have primary and lesser level of education compared to reference categories respectively. Unemployed male youth are significantly less likely to state not to continue relationship with infected individuals than employed after controlling for other factors. Those who think that HIV/AIDS cannot be transmitted by transfusion of untested/unsafe blood are significantly more likely and HIV/AIDS can be infected by having one partner are significantly less likely to perceive that not to continue relationship with infected friends or relatives than reference categories. Those who prefer public health

Table 5: Results of logistic regression of self perceived stigma and discrimination towards HIV infected person on selected background characteristics, Tamil Nadu, India

Predictor variables	Type of stigma and discrimination						Any stigma and discrimination	
	HIV/AIDS infected person is characterless		HIV/AIDS infected person should be isolated		Continue relationship with infected friends/relatives		OR	Sig.
	OR	Sig.	OR	Sig.	OR	Sig.		
Residence								
Metropolitan city (RC)								
Non-metropolitan city	1.850**	0.000	0.365**	0.000	0.742	0.082	1.892**	0.000
Age of respondent								
< 21 years	1.145	0.436	1.045	0.836	1.775**	0.001	1.511*	0.022
> 21 years (RC)								
Education								
Primary & below	1.225	0.256	2.789**	0.000	1.605**	0.007	1.298	0.155
Middle and above (RC)								
Occupation								
Employed (RC)								
Unemployed	0.661	0.092	1.181	0.563	0.469**	0.003	0.723	0.174
Ever had sexual intercourse								
Yes (RC)								
No	1.841**	0.001	1.861**	0.006	1.100	0.589	1.531*	0.019
Sharing needles can transmit HIV/AIDS infection								
Yes (RC)								
No	1.080	0.697	1.684*	0.038	1.148	0.473	0.743	0.145
Transfusion of untested /unsafe blood can transmit HIV/AIDS infection								
Yes (RC)								
No	1.415*	0.043	1.233	0.320	2.283**	0.000	2.162**	0.000
HIV/AIDS can be transmitted from pregnant mother to unborn child								
Yes (RC)								
No	1.827**	0.006	1.515	0.141	1.172	0.449	1.634*	0.020
Condom can reduce contacting HIV/AIDS infection								
Yes	2.813**	0.000	0.685	0.274	1.110	0.662	1.869*	0.018
No (RC)								
Using disposable needles/syringes can transmit HIV/AIDS infection								
No (RC)								
Yes	0.818	0.307	0.709	0.156	1.027	0.888	1.037	0.856
Person can get HIV/AIDS infection by having one partner								
No (RC)								
Yes	0.659*	0.013	0.486**	0.000	0.594**	0.001	0.579**	0.001
Aware of ICTC services								
No (RC)								
Yes	0.693*	0.032	0.915	0.664	0.807	0.208	0.697*	0.036
Aware of any NGOs providing HIV education /prevention services								
No (RC)								
Yes	0.745	0.115	1.310	0.215	1.034	0.857	0.647*	0.020
Preference of public health facilities for any health problems								
No (RC)								
Yes	0.354**	0.000	0.353**	0.000	0.519*	0.016	0.168**	0.000
Constant	0.688	0.428	0.285	0.022	0.650	0.336	3.456	0.017
Number of cases	796		796		796		796	
-2 Log likelihood	962.29		694.57		983.48		921.00	
Nagelkerke R Square	0.199		0.231		0.151		0.288	

Note: RC: Reference category; *P < 0.05; ** p < 0.01.

facilities for any health problems are more likely to influence not to continue relationship with infected friends or relatives compared to those who do not prefer public health facilities. Place of residence, ever had sexual intercourse, aware of ICTC services, aware of any NGOs providing HIV education/prevention services does not have any significant effect on the perception that not to continue relationship with infected friends or relatives. Table 5 also reveals that male youth residing in non-metropolitan cities and in the age of less than 21 years are significantly more likely to perceive any stigma and discrimination (PLHAS is characterless or person should

be isolated or not to continue relationship with infected friends or relatives) towards PLHAS compared to those who are residing in metropolitan cities and those with above 21 years respectively. Youth who ever had sexual intercourse are significantly more likely to express any stigma and discrimination towards PLHAS compared to those who are not exposed sexual activities. Among prevention of HIV/AIDS factors, those who have knowledge of misconceptions (HIV/AIDS cannot be transmitted through transfusion of untested/unsafe blood, and HIV/AIDS cannot to transmit from pregnant mother to unborn child) are significantly more likely

to perceive any stigma and discrimination than those who had the correct knowledge of HIV/AIDS prevention. Likewise, those who have knowledge of misconceptions (condom can reduce contacting HIV/AIDS infection) are significantly more likely to perceive any stigma and discrimination than those with correct knowledge of HIV/AIDS transmission. On the other hand, those who have knowledge of misconceptions (person can get HIV/AIDS infection by having one partner) are significantly less likely to perceive any stigma and discrimination than those with correct knowledge of transmission. Similarly, those aware of ICTC services, aware of NGO's providing HIV education/prevention services, and those who prefer public health facilities for any health problems are significantly less likely to perceive any stigma and discrimination.

Conclusion

This study revealed several important issues about perceived stigma and discrimination towards PLHIV. First and foremost, findings indicate that level of stigma and discriminations is quite high among male youth in slum in the study area. A number of socio-economic, demographic, and programmatic factors influence the level of stigma and discrimination towards PLHIV. Stigmas related to HIV/AIDS have a tendency to be most debilitating for people who are already socially marginalized and closely associated with HIV and AIDS. The present study reveals that HIV/AIDS related perceived stigma is higher among the youth from non-metropolitan cities, those with low level of education, with no sexual exposure and lack of knowledge on HIV/AIDS. Similar findings have also been observed supporting the present study (IIPS & Macro International, 2007). Thus, reducing stigma and discrimination associated with HIV/AIDS is essential in all communities; however emphasis has to be placed on dealing with the consequence of such stigma in urban slums. One important finding is that although many of the youth reported perceived stigma towards PLHA's, a substantial portion of them are willing to continue their friendship or relationship with HIV infected individual. This reflects that male youth in urban slums were willing to continue relationship with infected friends or relatives. From this it can be concluded that youth are more likely to perceive stigma and discrimination towards PLHAs who are not friends or relatives. Misconceptions about modes of HIV/AIDS transmission and prevention tend to bring in the negative attitude towards PLHAs. Urban youth who believes that transfusion of untested /unsafe blood cannot transmit HIV/AIDS infection and also HIV/AIDS cannot be transmitted from pregnant mother to unborn child are significantly more likely to perceive stigma towards PLHAs than other people. This indicates that perceived stigma and discrimination is strongly linked to general levels of knowledge about HIV/AIDS modes of transmission and prevention (Bharat, Aggleton and Tyrer, 2001). In other words, the knowledge and perception of how HIV/AIDS is transmitted is important on how youth perceive PLHAs. The result also shows that in spite of public awareness and communication campaigns on HIV/AIDS, the messages have not quite reached every place and people. This finding suggest that public health intervention for reducing HIV/AIDS related stigma in India should take into account the knowledge of modes of prevention and transmission. Thus, stigma and

discrimination associated with HIV/AIDS is a key challenge in the fight against HIV/AIDS. It creates a climate in which decisive action from the government may be side stepped. At the start of the AIDS epidemic, countries around the world addressed AIDS, using straight talk, evidence-based approaches, and the engagement of people living with HIV. However, there have been a number of landmark on HIV/AIDS related discrimination in the community. Therefore, a policy statement creating a framework for non-discrimination on the basis of their real or perceived HIV status is essential. Hence, expanding HIV/AIDS policy and programmes is a key component under the mainstreaming strategy in the National AIDS Control Programme phase-III (2007-2012). People Living with HIV/AIDS have provided the best response to the stigma and the denial that shroud the epidemic. They also bring faces and voices to the realities. The Information, Education and Communication (IEC) campaigns on HIV/AIDS need to be intensified to dispel some of the prevailing misconceptions about HIV/AIDS. Only clear and candid information about how HIV is and is not transmitted will alleviate unnecessary fear and discrimination.

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