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Original Research Article

PERCEPTION OF HIV/AIDS: A COMPARATIVE STUDY AMONG URBAN AND RURAL ADULT MALES.

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Abstract:

Introduction: HIV/AIDS has enormous social, economic and behavioral impact on individuals, families, communities and the entire world. Ever-Married adult males of (15-49 years) age group which happens to be sexually and economically the most productive age group have an eminent role and responsibility in home and society. It is believed that there is positive correlation between knowledge, attitude and practice or behavior. Rural people in comparison to urban people have poorer access to information and education which is critical in context of HIV since behavior change acts as a key in controlling this disease. With this backdrop a study was conducted to find out the difference in perception of HIV/AIDS among rural and urban population.

Methodology: A community based cross-sectional study conducted on 40 ever- married adult males each from a rural area (Singur) of Hooghly district and from a slum (Chetla) of Kolkata.

Results: Knowledge on HIV/AIDS was significantly ($p<.05$) more among the urban population than the rural population regarding the possibility of transmission of the infection by sharing of food, hugging a person who has AIDS, mosquito bites, from a mother to her baby, sexual practices, sharing of needles and razors/blades

Conclusion: Substantial effort must be made to empower the rural population with adequate and appropriate knowledge on all aspects of HIV/AIDS. This, in the long run will play a very important role in prevention and control of this dreaded malady.

Key Words: HIV/AIDS; Married Males; Perception; Urban; Rural

Introduction:

When the history of 20th century tragedies will be written, the pages devoted to Acquired Immunodeficiency Syndrome (AIDS) would be extensive. This will have profound catastrophic effects on individuals and societies throughout the world since it has enormous social, economic and behavioral impact on individual, families, communities and the entire world [1].

At the end of 2011 it was estimated that out of the 34 million adults worldwide living with HIV and AIDS, half are males. An estimated 0.8% of adults aged 15-49 years worldwide are living with HIV, although the burden of the epidemic continues to vary considerably between countries and regions [2]. It has been estimated that 90 percent of women living with HIV in Asia were infected by their husband or long-term partner [3].

The Government of India estimates that about 2.40 million Indians are living with HIV with an adult prevalence of 0.31% (2009). Of all HIV infections, 61% are among men [4].

According to India's National AIDS Control Organization (NACO), the bulk of HIV infections in India occur during unprotected heterosexual intercourse. Women who are in monogamous relationships are becoming infected because their husbands have had multiple sexual partners.

Married adult males have important role in home and society. Various studies have been done to ascertain the awareness among varied subjects like nurses, doctors, students, but fewer attempts have been made to assess the perception of HIV/AIDS at the community level.

It is believed that there is positive correlation between knowledge, attitude and behavior. Rural people have poor access to information and education which is critical in context of HIV since behavioral change is the key to controlling the epidemic.

With this backdrop a study was conducted to ascertain the awareness levels regarding HIV/AIDS among ever-married adult males (15-49) of rural and urban background. The findings of this study will help policymakers and healthcare professionals to develop, all-round intensive and appropriate programs at the mass level both in rural and urban areas which would aim at equipping the public with accurate and adequate knowledge of this dreaded malady which is very much preventable.

Objectives of the study:

- To study the socio-demographic characteristics of the ever-married adult males in 15 to 49 years age group of a rural and urban areas.
- To study and compare the knowledge regarding HIV/AIDS among the rural and urban study population.
- To ascertain the covariates of the assessed knowledge on HIV/AIDS.

Materials and Methods:

Sample size:

The prevalence of Knowledge of HIV/AIDS among Ever-Married Adults Men (age 15-49) who have heard of AIDS is 91.9% and 65.8% in urban and rural communities of West Bengal respectively [5].

Considering this prevalence with 80% power of the study (β), α error 5%, the minimum sample size becomes 38 for each group after applying the formula

$n = 2p\,(1-p)\,(Z\alpha_{/2} + Z_{1-\beta})^2 / (p_1-p_2)^2$

Where, p_1: Prevalence of knowledge about HIV/AIDS in urban population of West Bengal

p_2: Prevalence of knowledge about HIV/AIDS in rural population of West Bengal.

p: $(p_1 + p_2)/_2$

It is further increased by 5% to account for contingencies such as non-response. So final sample size is 40 in each community.

Method of data collection:

A community based cross-sectional study was conducted in Urban and Rural field practice areas of All India Institute of Hygiene and Public Health, Kolkata. Line listing of all adult married males aged 15 to 49 years was made and 40 such males were chosen by simple random sampling each from urban and rural community. Adult males were contacted from the sample list prepared as mentioned above. A question "Have you heard of HIV/AIDS?" Was asked to the subject. If the response to the question was 'no', then an adult male in the contiguous house was included in the study to reach the sample size. Thus a sample of 80 males comprising of 40 males from the urban slum (Chetla) and 40 males from the rural area (Singur) were selected for the study.

Informed consent was taken from the study population. They were given the freedom of refusal to give response to all or any particular question(s) at any stage of the study. Confidentiality and anonymity was ensured by not recording their names or any other information which would reveal their identity. Before the start of the study, ethical approval was obtained from the Institute Ethics Committee.

The schedule was prepared in the local language (Bengali), was made simple, easily understandable and unambiguous. It consisted of questions on knowledge regarding HIV/AIDS in general, modes of transmission, susceptibility for HIV and preventive measures. The instrument was established by literature review, and adapted from NFHS-3, "Man's Questionnaire". Cronbach's α was 0.87, which indicate sufficient internal consistency. The content and face validity of the schedule was ensured by public health experts of All India Institute of Hygiene and Public Health, Kolkata.

To evaluate knowledge of the respondents, responses were categorized into "yes", "no" or "do not know". A score of" 1" was assigned for a correct response and "0" for any other. The scores were then summed up to generate an ōverall score for each participaṇt. Levels of knowledge were then categorized depending on their total and median score. Accordingly, level of knowledge was categorized as "inadequate' for respondents who scored ≤ median and "adequate" for those who scored >median. Thus median score was used as the cut-off value.

Statistical Analyses*:*

Data were entered into a spreadsheet and exported to Statistical Package for the Social Science® (SPSS) for Windows, version 16.0 software for analysis. Descriptive statistics were used to describe background characteristics and knowledge about HIV/AIDS. Numbers and percentages were used to present categorical data and median for non-normal continuous data.

Comparison between urban response and rural response for each knowledge question was analyzed with Chi-Square Tests Independent t test was used to determine mean difference of knowledge between urban and rural areas**.** Ratios (ORs and AORs) and 95% confidence intervals (CIs) were calculated through logistic regression model to determine association levels of knowledge with socio-demographic variables. All tests were two-tailed, and $P<0.05$ was considered significant.

Results:

Table 1. Background characteristics of the study population (*N*=80)

VARIABLE		BACKGROUND	
		URBAN (%)	**RURAL (%)**
Age (15-49) Mean(SD) - 34.88(8.44) years	15-19	2(5)	1(2.5)
	20-24	1(2.5)	5(12.5)
	25-29	8(20)	717.5)
	30-34	**9(22.5)**	6(15)
	35-39	8(20)	4(10)
	40-44	3(7.5)	**10(25)**
	45-49	**9(22.5)**	7(17.5)
Education Level	Illiterate	1(2.5)	8(20)
	Below Primary	8(20)	7(17.5)
	Primary completed	**20(50)**	**15(37.5)**
	Secondary completed	11(27.5)	10(25)
Occupation	Government service	1(2.5)	2(5)
	Private sector service	7(17.5)	4(10)
	Business	8(20)	**13(32.5)**
	Lab our (Skilled and Unskilled)	**17(42.5)**	8(20)
	Farmer	0(0)	**13(32.5)**
	Other	7(17.5)	0(0)
Caste/Tribe	SC	9(22.5)	10(25)
	OBC	4(10)	6 (15)
	OTHER	**27(67.5)**	**24(60)**
Religion	Hindu	**36(90)**	**34(85)**
	Muslim	4(10)	6(15)
Sources of information	Radio	5(12.5)	6(15)
	Television	**23(57.5)**	**24(60)**
	Newspapers	4(10)	1(2.5)
	Magazines	1(2.5)	0(0)
	Friends	9(17.5)	9(22.5)

Majority of urban subjects (50%) and rural subject (37.5%) have completed education till primary level .Urban subjects were mostly skilled/unskilled laborers by occupation(42.5%) whereas their rural counterparts were farmers or into business(32.5% each).Television served as the major source of information for the urban subjects(57.5%) as well as the rural ones(60%).

Background characteristics (Table 1) The Background characteristic of the study population as seen Table 1 reflects that 52.5% subjects in urban area and 50% subjects in rural area belonged to younger age group (up to 35 years).

It is seen that 20% of subjects in the urban area had Below Primary level of education, 50% had completed Primary education, 27.5% had completed Secondary education and 2.5 % of them were illiterates. In contrast 17.5% of subjects in the rural area were educated till Below Primary level, 37.5% had completed Primary education, 25% had completed Secondary education and 20% of them were illiterates.

Majority of the urban population (42.5%) were laborers while most of their rural counterparts were farmers or into business (32.5% each). Hindu religion was practiced predominantly in both the areas .T.V. topped the list in both urban (57.5%) and rural areas (60%) as source of information about HIV/AIDS. (22.5%) subjects from urban area and (17.5%) subjects from rural area said that Radio, newspaper, Magazines served as source of information .Friends also acted as good source of information i.e. (17.5%) and (22.5%).in urban and rural areas respectively.

Table 2. Knowledge regarding HIV/AIDS of the study population (*N*=80)

PERCEPTION OF HIV/AIDS	**URBAN** (%)	**RURAL** (%)	$\chi 2$**test (**df=1) **Significance**
People get HIV/AIDS by sharing food with a person who has AIDS	32(80)	21(52.5)	$\chi 2$ =6.765 **, p = 0.017**
People get HIV/AIDS by hugging someone who has AIDS	30(75)	19(47.5)	$\chi 2$ =6.373 , **p =0.021**
Healthy-looking person to have HIV/AIDS	23(57.5)	19(47.5)	$\chi 2$ =0.802 , p =0.502
HIV/AIDS be transmitted from a mother to her baby	28(70)	9(22.5)	$\chi 2$ =18.152 , **p =0.000**
Heard about special antiretroviral drugs that people infected with HIV/AIDS can get from a doctor or a nurse to help them live longer	15(37.5)	15(37.5)	$\chi 2$ =0.000 , p =1.000
Know of a place where people can go to get tested for HIV/AIDS	22(55)	22(55)	$\chi 2$ =0.000 , p =1.000
DO TO AVOID OR REDUCE			
Abstain from sex	30(75)	21(52.5)	$\chi 2$ =4.381 , p =0.062
Use condoms	38(95)	19(47.5)	$\chi 2$ = 22.029**, p =0.000**
Stay faithful to one partner	38(95)	26(65)	$\chi 2$ =11.250 **,**

			p =0.001
Avoid sex with sex workers	36(90)	36(90)	$\chi 2$ = 0.000, p =1.000
Avoid sex with homosexuals	22(55)	3(7.5)	$\chi 2$ = 21.004, **p =0.000**
Avoid sex with persons who inject drugs	30(75)	11(27.5)	$\chi 2$ =18.061 , **p =0.000**
Use blood only from relatives	23(57.5)	18(45)	$\chi 2$ =1.251 , p =0.371
Use only new/sterilized needles	35(87.5)	29(72.5)	$\chi 2$ =2.813 , p =0.161
Avoid sharing razors/blades	35(87.5)	24(60)	$\chi 2$ =7.813 **, p =0.010**
Avoid kissing	16(40)	13(32.5)	$\chi 2$ =0,487 , p =0.642
Avoid mosquito bites	21(52.5)	4(10)	$\chi 2$ =16.815 **, p =0.000**
Mean(SD) knowledge score: Urban-11.85 (2.98); Rural- 7.73 (4.78).	**Independent t test :- p=0.000,C.I.(2.345-5.905)**		

Shows the significant difference in knowledge about HIV/AIDS amidst the urban and rural subjects

Knowledge regarding HIV/AIDS (Table 2)

There were some significant differences in knowledge regarding HIV/AIDS with background characteristics as seen in Table 2. Knowledge difference between urban and rural population was significantly different about possibility of transmission by sharing of food, (urban-80% and rural-52.5%); hugging with a person who has AIDS, (urban-75 % and rural-47.5%); mosquito bites (urban-52.5% and rural-10 %); and from a mother to her baby (urban-70 % and rural-22.5%), to avoid or reduce HIV/AIDS by using condoms, (urban- 95% and rural-47.5%); by staying faithful to one partner, (urban- 95% and rural-65%); by avoiding sex with homosexuals, (urban-55% and rural-7.5%); by avoiding sex with persons using inject drugs, (urban- 75% and rural-27.5%); and by avoiding sharing razors/blades, (urban- 87.5% and rural-60%) in association with background characteristics.

However there were no significant differences($p<05$) in knowledge regarding HIV/AIDS between urban and rural population regarding issues like healthy-looking person having HIV/AIDS, (urban-

57.5% and rural-47.5%); availability of special antiretroviral drugs for people infected with HIV/AIDS from medical professionals to prolong longevity, (urban-37.5 % and rural-37.5%); knowledge of places where people can get tested for HIV/AIDS, (urban- 55% and rural-55%) **;** by abstaining from unsafe sex, (urban-75% and rural-52.5 %); avoiding sex with sex workers,(urban-90%and rural-90%);usage of blood only from relatives,(urban- 57.5% and rural-45%);usage of only new/sterilized needles, (urban-87.5% and rural-72.5%) ;avoiding kissing, (urban- 40% and rural-32.5%).

Table 3. Association of Adequate Knowledge regarding HIV/AIDS with socio-demographic characteristics of the study population: A Bivariate and Multivariate analysis (n=80).

COVARIATES		URBAN		RURAL	
		OR (C.I.)	AOR (C.I.)	OR (C.I.)	AOR (C.I.)
AGE	**≥35**	2.1 (0.55-8)	2.645 (0.52-13.46)	1 (0.27-3.67)	0.537 (0.07-4.13)
	<35	Ref	Ref	Ref	Ref
EDUCATION	**≥ SECONDARY**	8.125 (0.92-72.02)	4.79 (0.45-50.74)	**16** (2.67-95.75)	**9.45** (1.19-74.82)
	BELOW SECONDARY	Ref	Ref	Ref	Ref
OCCUPATION	**OTHERS**	**4.05** (1.03-16.01)	1.63 (0.28-9.45)	**16.29** (2.89-91.83)	**14.83** (1.81-21.42)
	LABOUR &FARMER	Ref	Ref	Ref	Ref
CASTE	**OTHERS**	**5.6** (1.39-23.62)	4.09 (0.63-26.61)	2.14 (0.53-8.63)	2.02 (0.28-14.80)
	SC & OBC	Ref	Ref	Ref	Ref

Shows that multivariate regression provides significant association of education and occupation with level of knowledge but age and caste has no significant association

Association of knowledge with Socio-demographic characteristics (Table 3)

Table 3 demonstrates the association of adequacy of knowledge regarding HIV/AIDS among the study population with their socio-demographic characteristics using bivariate and multivariate logistic regression.

Bivariate logistic regression provided with the observation that respondents with education below Secondary level and laborer or farmer by occupation had significantly lower knowledge among the rural subjects. Whereas those belonging to SCor OBC caste and laborer or farmer by occupation among urban subjects had

significantly lower level of knowledge. But age had no significant association with the level of knowledge among both the rural and urban men.

Multivariate logistic regression showed that socio-demographic characteristics like education [A.O.R. (6.38), 95% C.I. (1.57-25.96)] and occupation [A.O.R. (4.19), 95% C.I. (1.38-12.69)] significantly contributed to level of knowledge. But advancement in age [A.O.R (1.12), 95% C.I (0.32-3.25)] or higher caste [A.O.R (1.78) C.I (0.56-5.65)] did not significantly contribute towards adequacy of knowledge among the study population.

Discussion:

A research work published in Public knowledge and attitudes about AIDS among adults in Calcutta, India shows that Newspaper and television were the most frequent sources of information about AIDS maintaining similarity with the results of this study [6]. Of the respondents who had heard of the disease, 95% knew AIDS was transmitted by sexual intercourse; less than half, however, also knew that AIDS could not be acquired through kissing, insect bites. 29% were unaware that infected persons could be asymptomatic and appear healthy. Level of education was the only variable that independently correlated with knowledge of AIDS striking a resemblance with this study. More than one-third of respondents would not have dinner with a person who has AIDS.

Awareness of HIV/AIDS in a remotely located conservative District of J and Kargil showed that only 22.57% of the respondents had correct opinion about means to avoid HIV/AIDS [7]. Other methods included use of condoms, checking blood prior to transfusion, sterilizing needles and syringes for injection Only 17.8% of males expressed ignorance about any preventive method and only 6.3% males had scientifically wrong perceptions about means of prevention. The study revealed a very low awareness: a mere 14% knew illicit sex was a risk factor and just 11% could identify blood or contaminated syringes/instruments as means of transmission and mere 1% knew about vertical transmission.

Some rural studies have shown that more than 89% of the respondents endorsed one or more of the accepted practices favoring spread of HIV [8]. In urban areas more than 92% of males had knowledge of sexual route [10]. As many as 37.5% of the surveyed rural population endorsed all the 3 known routes [8-9]. The rapid household survey (1999) in Baramulla revealed that 82.1% males mentioned sexual contact as the chief mode of transmission. Blood transfusion was blamed by 55.9% males, while 37.4% males had knowledge of mother-to-child transmission [11]. Increased exposure to various media mainly electronic (TV, radio), people have fair to good knowledge.

Conclusion:

This study highlights that despite intensive efforts to spread awareness about HIV/AIDS, there still exist lacunae regarding the contents and adequacy of the disseminated information to empower the general mass with the correct knowledge regarding this disease. Awareness levels among subjects were found to be inappropriate regarding certain aspects of transmission. There is a need to lay emphasis on educating masses about these aspects of HIV/AIDS. HIV prevention and intervention strategies need to focus on Ever-Married adult males (age 15-49) whose self-perception of HIV risk may be low, but whose risk is linked to exposing their family members to the deadly virus.

Our study further reveals that the rural residents are more deprived of the correct knowledge of HIV/AIDS which understandably proves that the conventional IEC methods targeting general population via mass media are not reaching the rural

areas which maybe on account of their access to education. Therefore this disparity of knowledge between the urban and rural population should be bridged and appropriate, suitable and fitting message on HIV/AIDS should be propagated and advocated in the most remote and rural areas of India. It is strongly felt that specially designed targeted interventions must be implemented in these areas. Community participation and roping in influential personalities of the villages like religious leaders, school teachers, panchayat members, field level health workers for an organized, robust and intensive health education programme will go a long way in enhancing and enriching the knowledge of the villagers. Lack of funds should never hinder the education programs. The concept of discussing issues of sexual behavior and STDs which is otherwise a taboo in the conservative set up of Indian society must be eliminated by newer programs like "each one teach ten" on a one-to-one basis as done in our program or "each one once-in-a-month" or "my target –my village" must be promoted and the sense of responsibility must be instilled all over as HIV/AIDS is now an universal problem of every citizen.

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