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Original Article

Knowledge and beliefs of Adolescents regarding Sexually Transmitted Infections and HIV/AIDS in a rural district in Pakistan

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Abstract

Objective: To assess the knowledge and beliefs of adolescents (15-19 years girls and boys) regarding sexually transmitted infections (STIs) and HIV/AIDS.

Methods: A community based cross-sectional survey was conducted in October 2002 in a rural district (Mirpurkhas) of Sindh province, Pakistan.

Results: A total of 428 adolescent girls and boys were interviewed. Only 44% correctly named at least one STI, while 55% knew at least two modes of transmission for HIV/AIDS. Adolescents with education greater than or equal to secondary level, those who were able to read the newspaper, possessed electricity in their homes and were allowed to meet their friends once in six months had significantly more HIV/AIDS knowledge.

Conclusion: We conclude that rural adolescents of Sindh need more knowledge regarding STIs including HIV/AIDS. There is a need to formulate strategies to raise the levels of awareness and knowledge among adolescents regarding these conditions. Our findings indirectly support the use of mass media and peer education strategies to provide factual information to adolescents (JPMA 57:8;2007).

Introduction

Acquired immune-deficiency syndrome (AIDS) has emerged as a global pandemic. An estimated 5 million people are living with HIV/AIDS around the world. Asia is second only to Africa for HIV infections.[1] Pakistan, with an estimated 78,000 persons infected, has until now been considered a low prevalence, high-risk area.[1,2] A recently released study showing high prevalence in high risk groups in urban areas of Lahore and Karachi, reveals that we now have a "concentrated epidemic".[3] Risk is associated with: red light areas visited by traders, truck drivers, and travelers, re-use of syringes, low literacy, high fertility, low barrier contraceptives use; pockets of intravenous drug abuse; and use of unscreened blood in healthcare.[4] Small-scale studies, reviewed elsewhere, give useful information on selected groups[5-8] with potential to transmit HIV to the general population.[2] More systematic studies are now underway or being planned.[3] Ultimately, the concentrated risk now observed among high risk urban groups poses a risk to others in our population, such that there is accordingly a need to assess the state of awareness, beliefs and knowledge in all areas of the country, so as to contribute to the development of evidence-based prevention strategies. In particular, to prevent the spread, information and education initiatives are needed. Effective strategies require estimates of baseline knowledge, attitude and practices.

Most knowledge and behavioral patterns acquired during adolescence last a lifetime and impact adult health. As 22-25% of Pakistan's population is adolescent[9], dissemination of preventive measures is key to population health. Although HIV/AIDS studies have been conducted among college students these do not represent Pakistani adolescents, as the vast majority never reach college.[10-13] Our study surveys knowledge and beliefs of adolescents from a rural area, regarding STIs, HIV and AIDS and their associated factors.

Methods

A cross-sectional survey was conducted in October 2002 in all three talukas (subdistricts) of rural district Mirpurkhas, Sindh. Based on alpha 0.05, power 0.8, and anticipated odds ratio 2, a sample of 380 was calculated and after inflating by 10% for non-response, the sample size was taken as 418. However, due to the availability of the respondents, 428 were interviewed. Applying Probability Proportionate to Size, villages were randomly selected from each taluka. Within each village, taking the rural health centre as center-point, every third house was selected using the right-hand rule. One adolescent (male or female) aged 15-19 years, resident for over a year, was interviewed from each house. Where more than one adolescent was in the household, selection was done by lottery. Because only girls were available at houses during daytime, selected male adolescents were interviewed where located during the day (eg. street, shop, field). For villages with insufficient houses, the adjacent village was used to complete the sample. A structured, pre-tested interviewer-administered questionnaire was used for data-collection.

The dependent variable was HIV/AIDS knowledge. Mentioning at least two modes of transmission was classified as "having knowledge". Data were edited and double-entered in Epi-info version 6. Analysis utilized the Statistical Package for Social Sciences version 10. Multivariate analysis determined the effect magnitude of independent variables.

Results

A total of 428 adolescents (227 boys and 201 girls) were interviewed. Socio-demographic characteristics (Table 1) showed 162 (38%) of adolescents as employed, and 126 (29%) with no formal education. Irrespective of educational status, 126 (78%) boys and 112 (56%) girls were able to read newspapers. Twenty-two percent of girls and 7% of boys were not allowed to meet friends; 64% boys and 73% girls stated having never seen a movie with friends, and 4% boys and 11% girls had never visited a city (Table 2).

Sixty-two percent knew that sexual contact can transmit disease. However only 44% correctly named at least one sexually transmitted disease (STD). Sixty-nine percent had heard of HIV/AIDS and 55% knew at least two modes of transmission; 19% believed that AIDS is curable while 52% would seek treatment from a doctor/clinic if infected. HIV/AIDS information was derived from friends

Table 1. Socio-demographic and economic characteristics of adolescents (age 15 to 19 years) and their parents in district Mirpurkhas, Sindh.

	n=428	%
Sex		
Girls	201	47
Mean age (± SD)	17.14 (±1.57)	
Marital status		
Married	88	21
Currently employed	162	38
Blue collar job (labourer)	70	16
White collar and/or skilled job	92	21
Family setup		
Nuclear (Single family)	309	72
Combined (Extended family)	119	28
Occupation of mothers of adolescents		
Housewife	369	86
Labourer	26	6
Skilled job[a]	33	8
Occupation of fathers of adolescents		
Labourer	204	48
Skilled job a	224	52
House structure		
Kucha[1]	204	48
Semi pucca[2]	32	7
Pucca[3]	192	45
Income of household (Pak Rs)		
< 2500	31	7
2500 ≤ 5000	202	47
5000 ≤ 10,000	151	35
10,000 and greater	44	10
Possession of the following household commodities		
Electricity	370	86
Gas	45	11
Radio/tape recorder	225	53
Television	231	54

1 .Roof and all walls made of clay and mud
2. Roof made of clay and weeds and walls of bricks
3. Both roof and walls made of bricks
a. Teacher, tailor, electrician

Table 2. Comparison of education, literacy and lifestyle of adolescent girls and boys (age 15 to 19) and literacy of their parents in district Mirpurkhas, Sindh.

Variable	Boys		Girls		P-value
	n= 227	%	201	%	
Educational status					
Illiterate	34	15	92	46	
Primary	26	12	40	20	
Secondary	130	57	59	29	< 0.001
Intermediate and above	37	16	10	5	
Able to read newspaper					
Yes	176	78	112	56	< 0.001
No	50	22	89	44	
Received religious education					
Yes	121	53	102	51	0.597
No	106	47	99	49	
Meet friends					
Not allowed to go	16	7	45	22	
Once in six months	39	17	90	(5	< 0.001
Daily and/or once a week	172	76	66	(3	
Watch movie with friends					
Never	146	64	147	73	
Often(once a week)	19	8	5	2.5	0.017
Occasionally (once a month or yr)	62	27	49	24	
Ever visited the city					
Yes	218	96	179	89	0.005
No	9	4	22	11	
Educational status of the fathers of the adolescents					
Illiterate	35	15	92	46	
Can read a newspaper only	37	16	8	4	
Primary	26	12	40	20	< 0.001
Secondary	129	57	61	30	
Educational status of the mothers of the adolescents					
Illiterate	197	87	173	86	
Primary	18	8	21	10	0.465
Secondary	12	5	7	4	

Table 3. Multivariate analysis showing association between independent variables and knowledge of adolescents regarding at least two modes for transmission of HIV/AIDS in district Mirpurkhas, Sindh.

Variable	Adjusted Odds Ratio
Educational status of adolescents	
Illiterate	1.00
Primary	1.0 (0.4 - 2.1)
Secondary	1.9 (0.9 - 4.2)
Greater than 11	3.6 (1.3 - 10.2)
Ability to read news paper	
No	1.00
Yes	2.2 (1.1-4.6)
Meet friends	
Not allowed to go	1.00
Once in six months	2.3 (1.1- 4.5)
Daily/once a week	1.0 (0.5 - 1.8)
Electricity	
No	1.00
Yes	2.6 (1.3 - 5.2)

(26%), parents (10%), teachers (4%), media (28%) (television, radio, magazines, books), health care providers (20%) (doctors, lady healthvisitors), and 6% from elders, husbands, uncles, aunts and/or spiritual leaders. It was taken care that there was no missing data in the survey, due to the vigilant field editing. Any missing data was grouped into the Don't know /No category.

Multivariate modeling (Table 3) shows education level, ability to read, access to friends (once in six months), and electricity at home, all significantly associated with knowledge about at least two modes of transmission for HIV/AIDS.

Discussion

Pakistan's adult literacy rate (ability to read and write name) is 31%, and most adolescents are not enrolled in schools. Accordingly, studies conducted on college or even school adolescents.[10,11] reflect only small segments of this population. For example, 100% of Rawalpindi college students reported having heard about HIV/AIDS, while 53% mentioned correct modes of transmission.[11] Our survey contributes contrasting community-based estimates for adolescents in a predominantly rural area.

District Mirpurkhas is rural, culturally mixed (Urdu, Sindhi, Punjabi Muslims, Hindus), and experiences urban influences due to proximity to Hyderabad. About 86% had electricity at home, which was significantly associated with having HIV/AIDS knowledge. Having electricity promotes access to mass media: 54% of households had television and 53% a radio/tape recorder.

In Pakistan, mean age at marriage is 26.5 years for men and 22 years for women, lower for both sexes in rural areas, and higher for educated women.[14] In our Mirpurkhas sample, early marriage was common (21% before 19 years), and associated with low literacy (29% illiterate); only 11% had intermediate or higher levels of education.

Sixty-nine percent had heard of HIV/AIDS while 55% knew at least two transmission modes. This unexpectedly high level of awareness may relate to media access (the major source for 28%), while 26% obtained information from friends. The fact that the National AIDS Control Program has started a media campaign may also be influencing our population. Adolescents able to read newspapers were 2.2 times more knowledgeable than those unable to read. In settings where the topic of sex is taboo (particularly for females), and not openly discussed, mass media plays an important role.[15] For example, HIV media campaigns in Uganda played a major role during the 1990s, when HIV prevalence among young women declined.[16]

Regarding STIs, 62% were aware of sexual transmission. However, for 44%, AIDS was the only STI they were aware of. Adolescents with intermediate or higher education were 3.6 times more likely to have knowledge of HIV/AIDS than illiterate adolescents. Adolescents meeting friends once in six months were 2.3 times more knowledgeable than those not meeting. Studies show that peers discuss personal matters and significantly disseminate information.[15]

Our study had limitations. Despite systematic sampling, haphazard village housing may have lead to some inappropriate selections. Sensitive issues like premarital sex could not be addressed in this setting. While confidentiality was attempted, friends accompanied some adolescent boys during interview, which could lead to contamination and information biases. Because a guardian's consent is required when enrolling children under 15 years of age in surveys, the views of younger adolescents were not surveyed.

Conclusion

Adolescents from this rural district need more knowledge regarding STIs, HIV and AIDS. Knowledge is associated with education and literacy, promotion of which therefore appears critical. Equally important to disease prevention is that knowledge which is both complete and correct reaches adolescents through media, and shared among peers. Our findings indirectly support the use of mass media and peer education strategies to provide factual information to adolescents.

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