

## AIDS-related Knowledge, Condom Usage Among Medical Postgraduates

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**Objective** To investigate the knowledge about safety/unsafety of sexual acts relating to HIV transmission, levels of embarrassment related to condom and condom usage among medical postgraduates. **Methods** From August to December, 1998, a self-administered anonymous questionnaire was given to 271 new medical postgraduates from two medical colleges of Beijing and Hebei Province. **Results** There was a hazy understanding of the protective function of condom from AIDS among medical postgraduates. Only 14.4% medical postgraduates persisted in using condom, and 27.94% had never or almost never used it. The levels of embarrassment about condom were high. The median score was  $3.55 \pm 0.98$ . Whether to use condom was related with the attitudes to condom, but not to AIDS. **Conclusion** There was some misunderstanding about condom and inconsistent condom usage in medical postgraduates. So it is essential to strengthen the sexual health education among them.

**Key words:** AIDS; Condom; Medical postgraduate

### INTRODUCTION

HIV/AIDS prevalence in China has rapidly increased and sexually transmitted cases have been found in the most provinces. One of the effective measures to control the sexual transmission of HIV/AIDS is consistent use of condom<sup>[1-3]</sup>. Inconsistent use of it is a risk factor related to HIV/AIDS. So, making an investigation of condom usage and the attitudes towards it among people will result in a better understanding about the danger of HIV infection.

Medical postgraduates, as a vital new force in AIDS prevention education, will play an important role in the prevention and control of AIDS. The authors want to identify the danger of HIV infection among medical postgraduates through an investigation of AIDS-related knowledge, condom usage and their attitudes.

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Biographical note of the first author: Wang Li, female, born in 1973, Ph. D candidate, major in epidemiology and health statistics.

## MATERIALS AND METHODS

### *Subjects and Methods*

From August to December, 1998, a self-administered anonymous questionnaire on AIDS-related knowledge, condom use and the attitudes towards condom, was given to 271 new medical postgraduates from two medical colleges of Beijing and Hebei Province. These students included 144 males and 127 females, the majority (66.1%) of them aged 20-29 and 58.67% married. All the students completed their questionnaires in privacy individual desks. The questionnaire having not any form of identification, was sealed in an envelope as the student left the survey area.

### *Statistical Analysis*

All the data were analyzed with SAS. Statistical comparisons of proportions were evaluated by  $\chi^2$  test. Spearman correlation analysis was used to evaluate the correlation between two factors.

## RESULTS

### *AIDS Knowledge*

Responses to the items on AIDS knowledge, measuring knowledge about AIDS-related sexual transmission are presented in Table 1.

TABLE 1

Medical Postgraduates' Responses for Each Statement About AIDS-related Sexual Transmission

Route of AIDS Transmission	Strong Agree	Quite Agree	Slightly Agree	Slightly Disagree	Quite Disagree	Strong Disagree	Total
Oral Sex (i.e. Penis suck) With the Infected (With Condoms)	68 (25.9)	66 (25.1)	49 (18.6)	31 (11.8)	17 (6.5)	32 (12.2)	263 (100.0)
Vagina Sex Contact With the Infected (With Condoms)	49 (18.6)	54 (20.5)	58 (22.1)	47 (17.9)	26 (9.9)	29 (11.0)	263 (100.0)
Men to Men Anal Sex With the Infected (With Condoms)	63 (24.4)	58 (22.5)	53 (20.5)	36 (14.0)	18 (7.0)	30 (11.6)	258 (100.0)
Having Many Sex Partners(With Condoms)	137 (52.1)	66 (25.1)	28 (10.6)	5 (1.9)	8 (3.0)	19 (7.2)	263 (100.0)

Table 1 shows that 51.0%, 39.1% and 46.9% of the respondents thought that HIV/AIDS could be transmitted through oral sex, vagina sex and men to men anal sex with infected man even if they used condoms.

But in another question, 75.6% of the respondents considered HIV/AIDS transmission could be prevented by use of condom. 76.9% agreed that mutual fidelity (i.e. sexual faithfulness) was a surer AIDS virus-safe behavior than condom use, and 43.98% made sure that one sex partner at a time was safer against AIDS than condom-protected sex.

### Level of Embarrassment About Condom

Perceived self-efficacy concerning the embarrassment of condom use was measured with 13 items (see Table 2). All items were scored on a scale ranging from 1 (very correct) to 6 (very incorrect). The lower the score was, the higher the embarrassment about condom was.

Table 2 shows that the respondent would rather buy condom from drugstores far from the neighborhood than buy it in the neighborhood, the college health center was the last choice. And the level of embarrassment was higher when they asked about condom from a drugstore attendant. The level of embarrassment about carrying a condom was very high (median score was  $2.83 \pm 1.43$ ), females were higher (median score = 2.54) than males (median score = 3.06) ( $Z = -2.57, P = 0.0102$ ).

TABLE 2

The Respondents' Attitude to Condom

Level of Embarrassment About	$\bar{x} \pm s$
Buying a condom from a drugstore in the neighborhood	$3.09 \pm 1.61$
Buying a condom from a drugstore far from the neighborhood	$3.78 \pm 1.53$
Obtaining free condoms from college health center	$3.08 \pm 1.56$
Asking about condom from a drugstore attendant	$2.95 \pm 1.44$
Asking a doctor questions about condom	$3.75 \pm 1.48$
Stopping during sex foreplay to ask my partner to put on a condom	$3.76 \pm 1.37$
A new partner insisting condom use	$4.02 \pm 1.38$
Preparing to provide a condom if sexual partner not having one	$3.93 \pm 1.31$
Telling sexual partner during foreplay that I will not engage in sex act unless using a condom	$3.72 \pm 1.37$
Providing a condom in sexual partner did not have one	$3.77 \pm 1.33$
Carrying a condom around in the wallet/purse	$2.83 \pm 1.43$
Speaking to partner about condom	$3.63 \pm 1.39$
Partner watching me dispose the condom after we used it	$3.76 \pm 1.33$
Total	$3.55 \pm 0.98$

### Condom Use

Among all the respondents having sexual experience, 14.7% persisted in using condom and 27.94% had never or almost never used it. The prevalence of condom use was significantly lower in older group. 85.5% respondents reported that they used condoms to avoid conception, and 5.2% to prevent them from infecting HIV/AIDS.

### Factors Influencing Condom Use

*Relationship Between Condom-related Attitude and Condom Use* Table 3 shows that the attitude of one's own and their friends to condom could affect the condom use. The possibility of condom use was higher among people who denied condom spoiling the fun of sex (Spearman's correlation analysis,  $r_s = 0.23697, P = 0.0060$ ) and among the people whose immediate friends spoke favorably about condom use (Spearman's correlation analysis,

$r_s = -0.42416$ ,  $P = 0.0001$ ). The higher the possibility about whether to buy condom was, the higher the possibility to use condom was (Spearman's correlation analysis,  $r_s = -0.29153$ ,  $P = 0.0006$ ).

The respondents were divided into two groups by above or below the median score on the level of embarrassment about condom. But no difference was found between them.

*Relationship Between AIDS-related Attitude and Condom Use (Table 3)*

Table 3 shows whether being afraid of getting AIDS, being worried about AIDS and the knowledge about the condom's protection against HIV transmission were not related with condom use.

TABLE 3  
Analysis of Influence Related With Condom Use

		Condom Use					
		Never	Hardly	Sometimes	Most Times	Always	Total
Condom Spoils the Fun of Sex	Yes	5 (9.26)	15 (2.78)	21 (38.89)	6 (11.11)	7 (12.96)	54 (100.00)
	Not Sure	4 (13.79)	3 (10.34)	8 (27.59)	9 (31.03)	5 (17.24)	29 (100.00)
	No	3 (6.00)	7 (14.00)	11 (22.00)	21 (42.00)	8 (16.00)	50 (100.00)
Immediate Friends Speak Favorably About Condom	Yes	2 (2.78)	9 (12.50)	18 (25.00)	28 (38.89)	15 (20.83)	72 (100.00)
	Not sure	6 (12.77)	11 (23.40)	17 (36.17)	8 (17.02)	5 (10.64)	47 (100.00)
	No	4 (33.33)	4 (33.33)	4 (33.33)	0 (0.00)	0 (0.00)	12 (100.00)
Assurance About Buying Condom	≤	6 (13.64)	11 (25.00)	14 (31.82)	6 (13.64)	7 (15.91)	44 (100.00)
	50%	6 (16.67)	9 (25.00)	10 (27.78)	9 (25.00)	2 (5.56)	36 (100.00)
	51-	6 (16.67)	9 (25.00)	10 (27.78)	9 (25.00)	2 (5.56)	36 (100.00)
	75-	1 (1.85)	5 (9.26)	15 (27.78)	22 (40.74)	11 (20.37)	54 (100.00)
	76-100%	1 (1.85)	5 (9.26)	15 (27.78)	22 (40.74)	11 (20.37)	54 (100.00)
Whether or Not Being Afraid of Getting AIDS	Yes	1 (2.13)	12 (25.53)	16 (34.04)	14 (29.79)	4 (8.51)	47 (100.00)
	Not sure	0 (0.00)	3 (33.33)	4 (44.44)	1 (11.11)	1 (11.11)	9 (100.00)
	No	12 (15.19)	10 (12.66)	20 (25.32)	22 (27.85)	15 (18.99)	79 (100.00)
Whether or Not Being Worried About Getting AIDS	Yes	11 (9.48)	22 (18.96)	34 (29.31)	30 (25.86)	19 (16.38)	116 (100.00)
	Not sure	0 (0.00)	0 (0.00)	4 (57.14)	3 (42.86)	0 (0.00)	7 (100.00)
	No	2 (16.67)	3 (25.00)	2 (16.67)	4 (33.33)	1 (8.34)	12 (100.00)
Whether or Not Agree That Condom Can Prevent Sexual Transmission of AIDS	≤	3 (8.11)	5 (13.51)	12 (32.43)	11 (29.73)	6 (16.22)	37 (100.00)
	67%	1 (5.26)	5 (26.32)	8 (42.11)	2 (10.53)	3 (15.79)	19 (100.00)
	68-	1 (5.26)	5 (26.32)	8 (42.11)	2 (10.53)	3 (15.79)	19 (100.00)
	75%	2 (6.25)	5 (15.63)	7 (21.88)	13 (40.63)	5 (15.63)	32 (100.00)
	76-	2 (6.25)	5 (15.63)	7 (21.88)	13 (40.63)	5 (15.63)	32 (100.00)
	89%	7 (15.22)	9 (19.57)	12 (26.09)	12 (26.09)	6 (13.04)	46 (100.00)
90-	7 (15.22)	9 (19.57)	12 (26.09)	12 (26.09)	6 (13.04)	46 (100.00)	
100%	7 (15.22)	9 (19.57)	12 (26.09)	12 (26.09)	6 (13.04)	46 (100.00)	

## DISCUSSION

Condom use is effective in preventing sexual transmission of AIDS. Inconsistent use of condom is one of the risk factors for HIV infection. This study showed that there was a hazy understanding of the protective function of condom against AIDS. On one hand, 31.9%-50% of the respondents agreed that "HIV/AIDS can be transmitted through sexual act with condom", on the other hand, three quarters thought that "condom can make sex completely AIDS-free". And some medical postgraduates (75% and 40% respectively) agreed that "mutual fidelity" or "one sex partner at a time" is a surer AIDS virus-safe behavior than condom use. Concerning condom use, the study showed that the consistent use rate was only 14.71%.

Similar to the other group of people<sup>[4]</sup>, the results also showed that whether to use condom among medical postgraduates was interrelated with condom-related attitude but not AIDS-related knowledge. Whether to use condom was determined by the acceptance towards condom itself, but not considering its protective function against AIDS. Well then, how about the respondents' acceptance towards condom? From the study about the level of embarrassment to condom, the authors know that the level of embarrassment about condom was high, i.e. their acceptance to condom was low. The embarrassment to condom will limit people's access to it<sup>[4]</sup>. Furthermore, peer norms seem to be related to condom use. The people whose immediate friends speak favorably for condom use would attribute to condom use, indicating that prevention efforts should be made to change peer cultures as a way to reduce risk. The study also found that one third of the respondents who thought condom spoiling the fun of sex had almost never used condom. So, it is essential to strengthen the education about condom's protective function in order to encourage people to use condom.

The research also showed that in line with other group of people, the prevalence of condom use was lower in older groups. And condoms were mainly used for contraceptive purpose rather than as protection against sexually transmitted diseases (STD)<sup>[5,6]</sup>, suggesting that our sexual educators should address condom use to prevent pregnancy and STD during different periods (i.e. after sterilization, pregnancy period and even after menopause) so to promote human's health.

In a word, there were some misunderstandings about condom and the inconsistent condom use among medical postgraduates. As a special population, their attitude to condom would affect the prevention program of AIDS. So, it is important to strengthen the sexual health education in medical education, including the AIDS-related knowledge.

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