Knowledge about Reproductive Health and Sexual Activity and Condom Use in the age of AIDS: A Study among Male College Students in Bombay, India

Gurumurthy Rangaiyan, Ph. D.
Ravi K. Verma, Ph. D.
Population Council, New Delhi.

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ABSTRACT

In the context of increasing sexual activity among college students in the age of HIV/AIDS, a survey of about 1500 never married male college students enrolled in 15 colleges were surveyed to investigate factors that determine the risk taking sexual behaviour in the context of HIV/AIDS. About 15 per cent ever had experienced sexual intercourse with an opposite sex partner. Multiple sex partners are widespread; the common partners are friends, neighbours and sex workers. Majority had never used condoms. Logistic analysis show respondents exposed erotic materials, have sexually experienced peers, consume alcohol more frequently and who perceived their family are more restrictive and having low knowledge about sexuality with positive attitude towards sex are closely associated with risky sexual behaviour. The need for a comprehensive sex education is evident from the present findings, as against the belief that sex education in the formal system will encourage permissiveness and promiscuity.

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INTRODUCTION

Sex is usually not a matter of overt discussion in India, except perhaps between husband and wife. Recognition of the desirability of, and need for, large scale surveys on sexual behaviour has been felt more intensely after the discovery of the Human Immunodeficiency Virus (HIV) (Cleland and Way, 1994). The predominant mode of HIV transmission in India is through sexual contact particularly heterosexual activities (NACO, 2000). The sexual mode of transmission has obvious implications for sexually transmitted diseases, which are reportedly the third most common communicable disease group in India, after Malaria and Tuberculosis. Over eighty per cent of the attendants in STD clinics are below 30 years of age. Interestingly ten per cent are estimated to be unmarried male students (Ramasubban, R., 1995). The National AIDS Control Organisation (NACO), Ministry of Health and Family Welfare is estimated that 3.5 million individuals infected with HIV in India (NACO, 2000). Although numbers of recorded cases of HIV and AIDS in India are still relatively low, the rapid increase in seropositivity rates amongst sentinel population suggests that the scale and pace of HIV transmission in the country is already significant.

Though premarital sex is proscribed, teenagers and young adults have always experimented with it. The last few years have perhaps seen an increasing trend towards greater experimentation by more individuals at a younger age with more partners in India (Ramasubban, 1992; Sehgal, 1992; Jain, 1994; Jejeebhoy, 1994; Watsa, 1994; Nag, 1996). Despite awareness about HIV/AIDS, the number of premarital sex partners has increased over time among youth (Reddy, 1993). Studies on sexual behaviour conducted in India can be grouped as pre AIDS studies and post AIDS studies. Sexual behaviour studies of pre-AIDS era were mainly concentrated among STD patients and explored their sexual history. A few studies were also conducted among college students about their attitudes toward premarital sex and other related sex issues (Kakar and Chowdhary, 1970; Reddy, 1980). Most recent studies in India have concentrated on risk behaviour among the most vulnerable groups viz., commercial sex workers, homosexuals, drug abusers but the majority of these studies are methodologically flawed (Watsa, 1990,1993; Chitale, 1992; Goparaju, 1993; Sethi et.al. 1995). In the light of the above background, an attempt has been made in this paper to understand the knowledge about reproductive health, sexual and condom use behaviour and to examine some of the factors that influence the sexual behaviour among male college youth.

Studies on Sexual Behaviour in India

In Madras, about 61 per cent of male and 48 per cent of female students in Madras had reported that they had experienced sexual intercourse before the age of 25 years (Reddy, 1993). Since 96 per cent of male students and 93 per cent of female students were unmarried, it can be presumed that the majority of this experience was premarital (Reddy, 1993). The high percentage of Madras college students admitting premarital sexual experience seem to be consistent with the findings of a recent study of a sample of boys in Delhi (Sehgal et.al. 1992) in which 25 per cent admitted having sexual intercourse. It is interesting that 11 per cent of male and 23 per cent of female students of Madras colleges had reported that the first sexual experience with a person of their own sex. Though these studies suffer inherent disadvantages of a large non response error, it is clear that pre marital sexual intercourse is relatively concern any students of large cities in India.

On the basis of in depth interviews with 91 students in Hyderabad Goparaju (1993) found that 80 students had reported to had sexual intercourse. The earliest age at initiation of sexual activity was reported to be 15 years. One in five of these sexual contacts occurred with females aged 15 or lower, while another 20 per cent occurred with considerably older women and the remaining among adolescents of their own ages. The majority of partners were neighbours (45 per cent), followed by friends (30 per cent), relatives (15 per cent) and fiances (10 per cent). Almost half of the first contacts was reported to be with a married woman (45 per cent). As far as sexual histories are concerned, two in three respondents reported multiple partners and the average number of partners was as high as four. About one quarter of all respondents admitted to having sex with a commercial sex worker; nevertheless sex workers formed a relatively small proportion of the partners of these students.

The Mumbai slum study (Bhende, 1993; 1993a) also suggested reported that a considerable proportion of out of school adolescent boys are sexually active and that most of them have contact with sex workers.

A large number of studies on sexual behaviour conducted so far in India have either concentrated on a specific group of people without using a rigorous sampling design or have used a methodology of collecting information which does not allow for an adequate and proper representation of the population under study. This is partially the reason why the findings on the extent of premarital sex are not consistent. The findings also raise important issues concerning quantitative versus qualitative methods of collecting information on sexual behaviour. At the same time there is no denying the fact, as is clearly evident from the findings of studies conducted so far, that there is a growing tendency among youth to engage in potentially risky sexual behaviour and experimentation with different types of partners. There is also clear evidence of the lack of use of condoms and safe sex practices. It is therefore imperative that more refined studies are conducted to provide greater understanding of the extent and nature of sexual behaviour among youth.

Theoretical investigations of adolescent and young adults sexuality and sexual behaviour have identified a number of pathways through which different factors may influence sexual behaviour particularly on heterosexual activity of youth. Although there has been substantial empirical research on sexual behaviour among youth in India, there has been rather limited attention paid to factors that might influence sexual behaviour. The limited research and mixed results concerning influences of various factors on sexual behaviour dictate the need for additional research in this area. Also, the fact that very few studies have been exclusively designed to understand the sexual behaviour of youth has prompted the undertaking of the present study.

Methodology

The data for this study were collected from 1500 male undergraduate students enrolled in 15 colleges in Greater Bombay, India. There are 150 colleges spread over Greater Mumbai with different educational streams. Of these 70 colleges belong to Arts, Science and Commerce stream and the remaining are professional, educational (B.Ed.) and technological institutes. It was decided to conduct the study only in the Arts, Science and Commerce colleges. The rationale for selecting respondents from non-professional stream was that they constitute more than three-fourth of the total students in Mumbai with the same environmental background. The sampling design adopted for the study was a three-stage stratified sample. Greater Mumbai was divided into three regions namely City, Suburban and Extended Suburban. Seven colleges were selected from city, five colleges were selected from suburban and three colleges were selected from extended suburban employing a Systematic Probability Proportional to Size (PPS)

sampling method. 100 students were selected randomly from the final year of each selected college. A self administered, anonymous questionnaire was printed in English, the language of instruction in majority of the colleges in Greater Bombay. To minimise any discomfort the students might feel, we asked them to sit at individual desks to avoid any kind of discussion or copying. Of the total 1500 students, 92 students did not completely fill the questionnaire.

Operational definition of the variables

The analytical variables and how they are measured are shown in Table 1:

(i) **Age** : Sexual involvement and frequency of sexual intercourse increases with age. Age in the present study has been measured in terms of completed years.

(ii) **Educational background** : Educational background not only enhances the level of knowledge, it is also likely to have a positive influence over the attitude towards sex. Research indicates that youth coming from a science background has a higher sexual, reproductive knowledge than those coming from Arts and Commerce (Vellhal et.al. 1993).

(iii) **Erotic exposure** : Research indicates a clear relationship between the exposure to erotic materials and sexual involvement. Exposure to eroticism was found to be significantly associated with pre-marital sex. It is a general measure of an individual's exposure to eroticism throughout the sexualization process. Berger et.al. 1972 and Rakesh's findings strengthened the association between erotic exposure and sexual attitudes and behaviour (Rakesh, 1992). Erotic exposure has been assessed using a composite index. This index was adopted from Rakesh (1992), to reflect a respondent's exposure to erotica (erotic materials). In order to construct the index, frequency of watching pornographic photos, films and reading magazines were considered.

(iv) **Social network** : Fisher (1988) suggested that social network norms and values can be consistent with AIDS Preventive Behaviour (APB) and accordingly inhibit or promote high risk behaviour. However, to date, investigation of the impact of social network influences on perceptions of high risk sexual behaviour has been limited (Catania, Kegeles and Coates, 1990). Different dimensions of social networking has been found to be positively associated with sexual knowledge and permissiveness (Kiragu et.al., 1993. An attempt has been made in the present study to construct a composite social networking index to assess the extent of socialization of an individual. The items which have been used for the construction of the index include how often they (i) go to cinema with friends (ii) watch pictures in video parlours with friends (iii) go to discotheques with friends (iv) restaurants/parities and (v) socialising with girl friends.

(v) **Liquor and drug use** : Sexual activity during adolescence has been linked to other transitional behaviour such as cigarette smoking, alcohol consumption and drug use. The relationship was very well established by many studies (Deniseb 1990; Verma and Latashorie, 1993). Men who combined drugs or alcohol with sexual activity were more likely to engage in high risk sexual activity (Stall et.al. 1986). Frequency of liquor and drug use has been assessed in terms of the reported frequency per month.

(vi) **Religiosity** : The influence of religious values and religiosity of an individual on sex attitudes and sexual behaviour was well established by many studies (Dedman, 1959; Spanier, 1973; and Zuckerman et.al. 1976). The religious affiliation and commitment of parents play an important role in determining the attitude and behaviour of their children. Parents with highly religious beliefs are likely to influence the children indirectly through their attitudes and directly by placing children in an environment that facilitates the transmission of restrictive values of adolescent sexuality (Udry, 1987). The lower the extent of religiosity the higher degree of sexual permissiveness and sexual activities. Traditionally conservative values taught at home and reflected in greater religiosity levels correlate highly with abstinence from sexual intercourse before marriage and a lower level of sexual involvement during dating (Carns,

1969). Religiosity of the respondents has been assessed in terms of their reported self religiosity and their perception of home religiosity. The items for this scale were pooled from previous studies and with the help of another judge selected items were retained for the present study. Table 1, presents the scoring and reliability coefficient of this variable.

(vii) **Family restriction** : A number of studies have shown a curvilinear relationship between parental control and sexual indulgence (Miller et.al. 1986; Thornton and Camburn, 1987; Udry, 1987; Rakesh, 1992; Hovell et.al. 1994). In the present study family restriction has been measured using a question on perceived family restriction. Table 1, presents the scoring and reliability coefficient of this variable

(viii) **Family environment** : Comfortable family environment has been shown to have negative a influence over sexual involvement (Newcomer and Udry, 1984; Hogan and Kitagawa, 1985; and Miller et.al. 1986). The present study uses perceived family environment as a variable, the scoring and reliability of which is presented in Table 1.

(ix) **Perceived personal susceptibility of HIV, perceived personal worry of HIV/AIDS, and attitude toward HIV infected persons** : These variables have been considered important by the researchers working on Health Belief Model (Petso and Jackson, 1991). The higher the perceived susceptibility and perceived worry, lower is the likelihood of sexual involvement. Table 1, presents the scoring and reliability of these perceptual dimensions for the present study.

(x) **Socioeconomic status** : Socioeconomic status is also associated with HIV/AIDS risk behaviour and studies conducted in India show that respondents from higher socioeconomic strata had a permissive attitude towards premarital sex and quite a large proportion have had pre-marital sexual experience (Savara and Sridhar, 1993, 1993a). A simple index was constructed in the present study to assess the socioeconomic status of the respondent. The variables which have been taken into consideration for the construction of the index include (i) education of father (ii) father's occupation and (iii) household income. These three factors are important to determine the socioeconomic status in an urban area. The index is constructed by assigning scores for all the three variables. A single score was obtained by adding all the three scores. The minimum and maximum values of the score were 3 and 12 respectively.

(xi) **Family type** : Parental supervision may be limited in a nuclear family which in turn gives more freedom to young adults to socialize outside the home. In a joint family there may be close supervision of younger people by elders; hence, movement outside home will be limited or restricted which in turn reduces peer influences on sexual activities. Two types of families have been considered in the present study. They are joint and Nuclear.

(xii) **Environmental variables** : Studies indicate a significant relationship between environmental variables and sex knowledge, attitude and sexual behaviour (Rakesh, 1992; Hogan and Kitagawa, 1985). These variables essentially relate to the type of secondary school (co-education versus segregated schools), place of the college (city, suburban and extended suburban) and place of residence (those living in hostels versus those living at home). These were constructed as categorical variables.

(xiii) **Peer norm** : In order to assess the perceived AIDS risk attitude, motives, rationalisation and behaviour of one's peer group, a peer norm scale was used in the study. This scale consists of 10 items and was developed by Winslow et al (1992) to measure perceived attitudes or behaviour of friends of undergraduate University students. These 10 items may be roughly termed recreational sex and perceived peer attitudes. These together were called the peer norm scale and was adopted for this study. The reliability of the scale was found to be significant at 0.001 level using inter item correlation. The possible range of scores for the scale was from 10 to 50. Higher score on the scale indicates positive attitude towards the perceived behaviour of friends.

(xiv) **Reproductive Health Knowledge** : Knowledge about sex, reproduction, contraception,

STDs and HIV/AIDS is a pre-requisite for safe sex in the context of both pregnancy and other diseases particularly HIV. A higher level of knowledge influences the consistent and effective use of contraceptive methods to prevent pregnancy and condom use to reduce the risk of contracting HIV. Reproductive Health knowledge in the present study was examined using a scale which assessed the students ability to respond correctly to items requiring accurate knowledge relating to sex, reproduction, contraception, STDs, HIV/AIDS and condom use.

(xv) **Attitude towards sex** : The attitude toward various aspects of sex and sex related issues were assessed using the sex attitude scale developed by Rakesh (1992). The sex attitude scale consisted of 40 items and has been developed for assessing the attitude of college students. Attitudes were assessed in the following areas: premarital sex relations, virginity, morality, censorship, influence of institution on sex, influence of parents on sexuality, sexual thoughts, homosexuality, sex education, pornography, double standard and masturbation. The reliability of the scale in terms of inter item correlation for the present sample was found to be 0.88.

(xvi) **Attitude towards HIV infected persons**: Attitude towards HIV infected persons were measured by five questions such as whether HIV infected people should be allowed to study with other students and should be allowed to work with other non-infected people.

(xvii) **Sexual behaviour** : Three types of sexual behaviour have been used in the present study as dependent variables. No Sex, Non-coital sex and coital sex. Non-coital sex includes kissing, petting and other non-penetrative sexual activities. Coital sex, on the other hand, is further divided in to risky sexual behaviour (behaviour such as fondling genitals and penetrative sex with or without condoms) and non-risky sexual behaviour (behaviour such as sexual abstinence and only kissing)in the context of acquiring HIV/AIDs.

(xviii) **Condom use** : Those who experienced coital sex were asked about the use of condom during sexual intercourse with an opposite or same sex partners. The frequency of condom use was measured in terms of `always', `sometimes' and `never'.

Descriptive Results:

The respondents were aged between 18 years and 23 years and the median age of the respondents was 19.8 years. The religious composition of respondents illustrates that over two-thirds of males were Hindus followed by Christians (13.5 per cent, Jain (7.7 per cent), Muslims (7.0 per cent), Parsi (2.6 per cent) and Sikhs (1.8 per cent). About 79 per cent belonged to nuclear families and the rest belonged to joint families. About one-third studied in city colleges and around 47 per cent studied in suburban colleges and remaining belonged to extended suburban colleges. About 78 per cent stayed either with parents or relatives and 22 per cent stayed at hostel.

Reproductive Health Knowledge

Reproductive Health knowledge is a pre-requisite for safe sex in terms of prevention of disease as well as unwanted pregnancy. It is observed from the Table 1 that about one-fourth of respondents felt that abortion should be performed within 12 weeks of conception. Only 29 per cent knew that conception chances are highest between 8 and 21 days of the menstruation cycle. In fact, about 14 per cent answered that women can conceive anytime after the intercourse. The basic concept of preventing pregnancy was not known to about 17 per cent of the respondents. The prevalence of higher amount of misconception regarding the pregnancy prevention raises major concern in-terms of unwanted pregnancy and abortion. Until now studies on contraceptive knowledge have focused only the married couples as its relevance was visualised in the context of family planning. In the context of AIDS prevention and prevention of unwanted pregnancies among teenagers, however interest has been shown to assess and promote the concept of contraceptives among youth. Regarding STD transmission, about one-third of respondents accurately knew that STDs can be transmitted through direct skin to skin

and skin to mucosa. The misconception regarding STD transmission is very high. A majority (86 per cent) of the respondents had correct knowledge regarding the mode of HIV/AIDS transmission. Overall, it is evident that quite sizeable proportion male students did not know about some of the reproductive health concepts and had misconceptions about RH related issues.

Table 1
Knowledge about Reproduction, STDs and HIV/AIDS

Abortion can be safely done within	
Anytime during pregnancy	7.2
30 weeks of pregnancy	46.3
12 weeks of pregnancy	24.5
3 weeks of pregnancy	12.4
Do not know	9.6
Conception chances are highest among women during.	
Anytime of menstrual cycle	15.2
First seven days of menstruation	17.5
8-21 days of menstruation	28.8
Last week of menstruation	11.4
Do not know	27.1
Pregnancy can be prevented by	
Washing genitals after sexual intercourse	27.5
Using contraceptive	13.8
Different positions during sexual intercorse	29.4
Urination after intercourse	11.9
Do not know	17.4
One can get Sexually Transmitted Disease by	
Needle Sharing	22.6
Dirty toilet seats, door handles and dirty cloths	11.2
Eating unhygienic food	9.2
Direct skin to skin, through sex	34.2
Do not know	22.8
AIDS can be transmitted by	
Kissing, hugging and petting	1.0
Using common toilets and cloth	3.4
Unprotected sexual intercourse	85.6
Bed bugs and mosquito	8.0
Do not know	1.8

Sexual Behaviour

The sexual experiences of the students in the present investigation varied widely. Broadly, there were three types of respondents according to their sexual behaviour. First, there were sexual abstainers who had no sexual experience (not even kissing) with an opposite or same sex partner. Second, there were respondents who reported to have non-coital sexual experience

(kissing, and stimulation of sexual organs) and third those who had coital sex (penetrative sex). It was observed from the Table 2, that 53.5 per cent were sexual abstainers, 31.8 per cent had only non-coital experience and 14.7 had coital experience.

Studies have shown that premarital sex includes diverse sexual behaviour with someone of same or the opposite sex: kissing, petting, mutual masturbation, oral sex, and anal sex and genital intercourse. However, most researchers seem to have regarded premarital sex primarily, if not exclusively, as sexual intercourse. To understand premarital sexual behaviour, it is necessary to examine other sexual acts also.

Non-coital Sexual Behaviour

According to Appetitional theory (Hardy, 1964) any pleasurable sexual experience is sufficient enough motivation for further sexual involvement. In this context non-coital sexual experiences are most likely to influence participation in subsequent coital sexual activity. Kissing, caressing and stimulation of genitals are the major acts of sex in the non-coital sexual activities. Of the total 31.8 per cent who had experienced non-coital sex, 46.5 per cent had ever experienced deep kissing, 42 per cent reported stimulation of opposite sex partner's sex organs either with or without clothes and 27.2 per cent had reported the stimulation of sex organs by their opposite sex partners.

Coital Sexual Experience

Most of the research on premarital sexual intercourse has focused on the numbers who engage in such behaviour, the age of the first experience and whether the participants use contraceptives. Very few researchers have explored the relationship between partners (e.g. friends, call girls, commercial sex workers, and pick-ups), whether sexual contacts were regular or casual and the number of sex partners. Frequency and type of sex acts are important aspects of sexual behaviour for further studies on the transmission and spread of STDs and HIV. Hence, this section deals with heterosexual intercourse/experience, partners, and age at initiation sexual activity, frequency of sexual activity, and reasons for not engaging in sexual intercourse.

It was found that 14.7 per cent of respondents reported to have had experienced sexual intercourse. Operationally sexual intercourse is defined as penile-vaginal intercourse at sometime in their lives. Over 40 per cent had initiated their sexual intercourse (with a female sex partner) below the age of 18 and the remaining 60 per cent initiated it at the age of 18 and above. A majority (75 per cent) reported to have sexual intercourse more than once in a month. Among the respondents who had experienced sexual intercourse 34.5 per cent had reported that their partner was a school/college friend. One-fifth of had reported that their partner was a neighbour and one-fourth said that their sex partners were commercial sex workers. Around five per cent reported to have had sex with a maid servant.

Table 2
Percentage Distribution of Respondents on Coital Sexual Activities

	Male	
	Per cent	Number
Sexual Intercourse with an Opposite Sex Partner		
Yes	14.7	206
No	85.3	1202
Partners		
School or College Friend	34.5	71
Neighbour	18.9	39
Relative	9.7	20
CSW or Call girls	1.9	4
Combination of CSW and any	24.3	50
Friends and Neighbours	5.3	11
House Maid or Servant	5.3	11
Age at First Sexual Intercourse		
14		
15	1.0	2
16	2.4	5
17	7.8	16
18	30.6	63
19	35.0	72
20	19.4	40
	3.9	8
Frequency of Sexual Intercourse		
Once in more than a month	1.6	3
Once in a month	74.3	138
Twice in a month	24.1	45

Sex with Same Sex Partner

Sex with same sex partner is called `Homosex'. Several sources seem to suggest that the homosexual activity in Mumbai is high. A gay magazine called `Bombay Dost' reportedly has a subscriber list of about 2000 persons in Mumbai itself. A special issue of *Week* (Nov., 1993) magazine has appropriately summarised the situation regarding homosex in India. Several sporadic evidences and estimates given by researchers or activists working in the area of sex appear to present a varying picture of homosexuality in India.

A survey carried out by *Parade* magazine in 1991, noted that India may well have the world's largest gay population. Over 70 per cent of Indian men are "physically involved" with their own sex. According to another guesstimate there are over 40 million homosexuals in India (Ashok Row Kavi as quoted in Week Magazine, op.cit). On the other hand, in a response to a 1991 survey of *Debonair* magazine, 37 per cent respondents admitted that they had sex with men. And eight per cent said their first sexual intercourse had been with another man. According to another survey in Calcutta (Week, 1993) almost two per cent of Calcutta's population was gay. A study in Kerala that was read out at the World Sexology Congress in Delhi in 1985 reported that nine per cent of adult males in Kerala were practising homosexuals. Reddy (1983) found that a sample of 464 male and 314 female college students in Madras, 11 per cent of reported ever having any homosexual experience. While summarising the situation regarding homosexuality in India, Moni Nag (1996) has pointed that estimates of the proportion of men having homosexual experience have serious methodological and definitional weaknesses. To what extent homosexual activity is common among college students in Mumbai however is not known. The present investigation reveals that (Table 3) only a very insignificant proportion (1.6 per cent) had reportedly experienced some or other forms of sexual activity with same sex partner. An under reporting of homosexual activity in the present study, however, cannot be ruled out.

Table 3
Percentage Distribution of Respondents who had Sex with Same Sex Partner According to Frequency and Age at First Experience

	Male
Sex with a Same Sex Partner	
Never	98.4 (1385)
Had sometimes but gave up	0.5 (7)
Have occasionally	0.4 (6)
Have regularly	0.7 (10)
Age at First Experience	
Below 15 years	34.7 (8)
15 years and above	65.3 (15)

Condom Use

The extent to which sexual contact contributes to the spread of HIV is partially determined by the consistency of condom use among contacting partners. Although the protection is not absolute, condom use reduces the risk of HIV infection substantially. We have examined condom use in the context of regular, casual partners and commercial sex workers. Table 4 indicates that, among the respondents, condom use with commercial sex workers is common, and about half of the respondents reported to be `always' using condoms, while 45 per cent used it `sometimes' and the remaining seven per cent had `never' used. In the case of casual partners, a higher proportion had never (45 per cent) used condoms. This proportion comes down to 38 with steady partners. Almost 43 per cent of respondents used condoms 'sometimes' with both casual and steady partners. The possible reason for a higher proportion not using condom with casual partners is that the casual partners are generally neighbours or relatives, who are usually married and hence the responsibility to prevent conception is entirely on the opposite sex partners in this context, whereas in the case of steady partners, a majority constitute unmarried

school or college friends. In this situation, the responsibility to prevent conception is shared by the both and therefore the use of condoms is high. A more plausible reason could be that casual sex may not be planned in advance and condoms may not be readily available. Even when a condom is readily available, its use is often felt to be an obstacle to the joy of spontaneous sex (Nag. 1996).

In the case of homosexuals (19 respondents), more than half never used any condom and one-third used sometimes and around nine per cent used always with a partner of same sex.

Table 4
Percentage Distribution of Respondents by Frequency of Condom Use and Type of Sexual Partners

	Male		
	Always	Sometimes	Never
Condom use			
Regular partner of opposite sex	18.2 (25)	43.8 (60)	38.0 (52)
Regular partner of same sex	8.7 (2)	34.7 (8)	56.5 (13)
Opposite partner of opposite sex	11.4 (6)	43.4 (23)	45.3 (24)
Opposite partner of same sex	10.5 (2)	36.9 (7)	52.6 (10)
Sex Workers	48.3 (28)	44.8 (26)	6.9 (4)

(Row total 100 per cent)

Multivariate Analysis

Table 5, presents the results of the hypotheses testing based on multiple regression analysis of the 1408 male undergraduate college youth. The respondents were grouped into high risk and low risk category. High-risk category includes those respondents who had experienced stimulation of sex organs and also those who experienced coital sex. Low risk group included sex abstainers and those who had experienced only kissing. It was thought that it would be appropriate to consider the youth who had experienced the stimulation of sex organs as highly risky from the view point of HIV/AIDS, as the stimulation of sex organs is an intense form of sexual interaction and given an opportunity could easily lead to sexual intercourse. High-risk sexual behaviour from the viewpoint of HIV/AIDS is usually defined in terms of multiplicity of sexual partners and non-use of condoms. In the present study, since sexual behaviour of the respondents' partners is not known, and the proportion using condom is very low and inconsistent, it was thought proper that coital sex itself could be an appropriate category of risk behaviour.

Independent variables used in the analysis are as follows:

Age, Erotic Exposure, Social Networking, Alcohol Consumption, Self Religiosity, Home Religiosity, Family Restriction, Family Environment, Perceived Personal Susceptibility, Perceived Personal Worry, Peer Norm, Reproductive Health Knowledge, Sex Attitudes, AIDS Attitudes, Socio-economic Status, Place of College, Place of Residence

The dependent variable i.e., risk status is categorical in nature and has two values namely 0 (low risk) and 1 (high risk).

The model chi-square for males was 410.170 (df=20, P<0.0000). In the classification analysis,

89 per cent of the males were correctly classified (97 per cent low risk and 43 per cent high risk). Categorical independent variables were dummy coded, and compared with reference category. For each variable we present the estimated odds ratios and 95 percent confidence intervals for the likelihood of being sexually experienced (risk taking behaviour), adjusted for all the variables in the model. The variables, which emerged as significant at 10 percent level only, are discussed in the text.

Alcohol consumption appears to be related to risk taking sexual activity. Respondents who consume alcohol more frequently would be likely to engage in risk taking sexual behaviour. The same relationship was found in the case of erotic exposure, higher the exposure of erotic materials higher would be the likelihood of indulging in risk taking sexual behaviour.

Although the respondent's perceived family restriction was expected to be negatively related to their sexual experience, the opposite was found. This could be partially explained on the basis of the reciprocal nature of relationship between the two phenomena. It is likely that parents became more restrictive as a result of their children's behaviour. It was found that respondents who associate primarily with peers who are sexually experienced are likely to engage in risky sexual activity. Respondents who have positive attitude towards premarital sex are more likely to indulge into risk taking behaviour than those who possess the conservative attitude towards sex.

Those with little or no personal worry of HIV infection are 49 per cent less likely to have risk sexual activity than those who worry about HIV infection. This could be primarily due to the reciprocal relationship between risk taking behaviour and perceived personal worry. Engagement in risk taking sexual activity might well lead to a greater concern about infection.

The data indicate that respondents who belong to medium and high socio-economic status are only 45 per cent and 38 per cent respectively as likely to be sexually experienced as those who belong to low socio-economic status.

Reproductive health knowledge is negatively related to sexual activity, it was found that higher the knowledge acquisition higher would be the responsible sexual activity i.e. either abstain from sexual activity or consistent condom use. Factors associated with risk taking among males are alcohol consumption, erotic exposure, family restriction, sexuality knowledge, peer norm, sex attitudes, perceived worry and socio-economic status. It is very clear from the results that sexual risk takers are from low socio-economic background with low sexuality knowledge. Erotic exposure i.e. exposure to pornographic movies and other sex materials is positively associated with risk taking. Family restriction is positively and significantly associated with risk taking sexual activity. Alcohol consumption positively and significantly influences the sexual risk taking behaviour among males. This relationship has been very well established by many researchers. A liberal sex attitude may be due to higher peer influence, these together may influence the sexual risky behaviour. Those who have indulged in sexual activity are likely to be more worried about the risk of HIV infection than those who have not indulged in any sexual activity. Other selected factors have not shown any significant influence on sexual risk status among males.

Discussion

Our findings support the previous research suggesting that a reasonable proportion of young people in metropolitan India are indulging into risk taking sexual activity and would therefore benefit from efforts addressing adolescent reproductive health issues including abstinence, using

contraception, pregnancy, STDs and HIV/AIDS. The attempts so far in the implementation of comprehensive family life education are at the discussion level.

In this era of AIDS and other STDs the finding that a majority of the sexually experienced young people were not using condoms and a substantial number have had sex with commercial sex workers must be viewed with concern. Bombay is emerging as the `*capital*' of HIV infection and the HIV infection is primarily concentrated among young adults who probably became infected in their adolescent years. Knowledge about condom and its use are poor and contraceptive services especially condoms are especially difficult because of the social barriers. Programs on AIDS education and preventive services to young people are urgently needed if current interventions are to be universally successful.

This situational dilemma can be further gauged if we examine the condom use behaviour and behaviour related to the non-monogamous relationships. The proportion using condoms was only 45 per cent among those who were involved with casual partners. This proportion is even lower (38 per cent) in the case of steady partners.

Exposure to erotic materials is the most important factor, which affects the sex behaviour. Obviously the erotic materials cannot be treated as the right source for acquiring knowledge. Also an attitude formed on the basis of erotic exposure is not likely to be pertinent particularly from the viewpoint of promoting safe sex. However, erotic exposure has been shown to be the most important predictor of sexual experience among college students (Rakesh, 1992). In the Indian context the finding has serious implications. In the absence of a formal and relevant sex education, erotic materials become the only source of acquiring information about sex and thus a source for attitude formation too. Young people who indulge in drinking habits very often or frequently are more likely to be sexually active. This result supports that the view that sexual activity is a part of a syndrome of behaviours that stem from young people's need for self-assertion.

A liberal attitude towards sex combined with poor reproductive knowledge may further add on to the potential risky behaviour. While to a large extent, knowledge and attitude are two independent concepts, it is expected that a liberal attitude should be essentially combined with correct knowledge so as to produce responsible sexual behaviour. Significantly socio-economic status emerged as an important predictor for sexual behaviour. This finding needs further investigation.

The results suggest that perceived peer norm has emerged as one of the important predictors of the sexual experience. Young people who associates with sexually experienced colleagues are themselves much more likely to be sexually experienced demonstrates the strong relationship between individual and peer behaviour. Young people are under tremendous pressure to confirm in an attempt to seek acceptance identity.

With all the limitations of the questionnaire methodology in sex research, the present study has brought out some salient features of the sexual behaviour among college youth. The need for a comprehensive sex education is evident from the present findings, as against the belief that sex education in the formal system will encourage permissiveness and promiscuity. The apparent lack of any tangible programme and policy has left young people in an information vacuum. Studies elsewhere have shown that sex education does not increase sexual activity and can in fact lead to postponement of sexual initiation and to protective behaviour once sexual activity begins. Carefully constructed education programmes that addresses the needs of young people,

gain their trust and correct their many misconceptions and fears would be more successful than the present state of silence. This study has presented the importance of the peers on their own behaviour and it is necessary to evolve a peer based programme to educate the youth as to how to resist pressure from their peers and to provide a comprehensive contraceptive knowledge package.

Table 5
Risks Status among Males: Results of Logistic Regression Analysis

Factors	Categories	B	S.E	Significance	Exp(B)
Age		0.1477	0.1098	0.1783	1.1592
Social Networking		0.0049	0.0799	0.9507	1.0050
Alcohol Consumption		0.4260	0.1125	0.0002	1.5311
Erotic Exposure		0.2341	0.0562	0.0000	1.7913
Self Religiosity		-0.1495	0.1785	0.4022	1.1613
Home Religiosity		-0.1709	0.1614	0.2897	1.1863
Family Restriction		0.5239	0.1602	0.0011	1.6886
Family Environment		-0.1146	0.1099	0.2969	0.8917
RH Knowledge		-0.0923	0.0296	0.0018	0.9118
Peer Norm		0.0604	0.0210	0.0041	1.0622
Sex Attitude		0.0531	0.0067	0.0000	1.0545
AIDS attitude		0.0269	0.0351	0.4437	1.0273
Perceived Susceptibility	**Susceptible***				1.0000
	No Susceptible	0.2361	0.3315	04847	1.2607
Perceived Worry	**Worried***				1.0000
	Not Worried	-0.7049	0.2180	0.0012	0.4941
Socioeconomic Status	**Low***				1.0000
	Medium	-0.8088	0.3188	0.0112	0.4454
	High	-0.9585	0.3662	0.0081	0.3835
Place of College	**City***				1.0000
	Suburban	0.1883	0.2199	0.3919	1.2072
	Extended Suburban	0.4480	0.2909	0.1233	1.5652
Place of Residence	**Non Hostel***				1.0000
	Hostel	0.3042	0.2637	0.2487	1.3555

*** Reference Groups**

Dependent Variable

Risk Status

0 Low Risk
1 High Risk

References:

Asthana,Sheena (1996), **"AIDS-related policies, legislation and programme implementation in India"**, Health Policy and Planning, Vol. 11, No. 2, pp. 184-197

Berger, Alan S., John, H. Gagnon and William, Simon. 1972.**"Pornography: High School and College Years"** in Vol. IX of the Technical Reports of the Commission on Obscenity and Pornography: U.S. Government Printing Office.

Bhende, Asha. 1993. **"Women and AIDS Project Final Report: Evolving a Model for AIDS Prevention, Education Among Underprivileged Adolescent Girls in Urban India"**. Unpublished.

Bhende, Asha. 1993a. **"A Study of Sexuality of Adolescent Girls and Boys in Underprivileged Groups in Mumbai"**. Paper presented at the Workshop on Sexual Aspects of AIDS/STD Prevention in India, Tata Institute of Social Sciences, Mumbai.

Carns, Donald. 1973. **"Taking about Sex: Notes of First Coitus and Double Standard"**. Journal of Marriage and the Family 35. 677-688.

Catania, Joseph A., Kegeles, S.M. and Coates, T.J. 1990. **"Towards an Understanding of Task Behaviour: An AIDS Risk Reduction Model (ARRM)"**. Health Education Quarterly. 17(1). 53-72.

Cleland, John and May, Peter. 1994. **"Introduction: AIDS Impact and Prevention in the Developing World: Demographic and Social Science Perspectives"**. Health Transition Review Supplement to Vol. 4. pp.1-11.

Dedman, J. 1959. **"The Relationship Between Religious Attitudes and Attitudes toward Pre Marital Sexual Relations"**. Marriage and the Family. 21 (Nov.). 171-174.

Dobhal, Harsh. 1995. **"India Could become Asia's HIV Capital, Says UNDP"**. Times of India. p.6. Sep. 25.

Fisher, J.D. 1988. **"Possible Effects of Reference Group Based Social Influence on AIDS - Risk Behaviour and AIDS Prevention"**. American Psychologist. 43. 914-920.

Goparaju, Lakshmi. 1993. **"Unplanned, Unsafe: Male Students Sexual Behaviour"**. Paper Presented at Workshop on Sexual Aspects of AIDS/STD Prevention in India, Tata Institute of Social Sciences, Mumbai.

Hardy, Kenneth R. 1964. **"An Appetitional Theory of Sexual Motivation".** Psychological Review 71: 1-18.

Helmstadter G. 1964. **Principles of Psychological Measurement**. New York Appleton - Century - Crofts.

Hogan, Dennis P. and Evelyn M. Kitagawa. 1985. **"The Impact of Social Status, Family Structure and Neighbourhood on the Fertility of Black Adolescents"**. American Journal of Sociology. 90. 825-855.

Hovel, Mel, Carol Sipan, Elaine Blumberg, Cathie Atkins, Hofstetter, C. Richard and Susan Kreither. 1994. **"Family Influences on Latino and Anglo Adolescents' Sexual Behaviour".** Journal of Marriage and Family. Vol. 56. No.4. pp. 973-986.

Jain, Kalpana. 1994. **"Survey Shows Delhi School Kids Sexually Active"**. The Independent (March 1) Study Conducted by Chaudhary, Shankar and Paul Francis. 1994. "Study of Delhi School Children". NGO - AIDS Cell. AIMS. New Delhi.

Jejeebhoy, Shireen J. 1994. **"Adolescent Sexual and Reproductive Behaviour : A Review of the Evidence from India".** Unpublished Report.

Kakar, Sudhir and Kamala Chaudhary. 1970. **Conflict and Choice: Indian Youth in a Changing Society**. Mumbai: Somaiya Publications.

Latashorie, K (1993), " **HIV/AIDS risk behaviour among the intravenous drug users in Manipur"**, Unpublished M.Phil, Dissertation, International Institute for population Sciences, Mumbai, India.

Kiragu, Karungari and Zabin, Laurie S. 1993. **"The Correlates of Pre Marital Sexual Activity Among School Age Adolescents in Kenya"**. International Family Planning Perspectives. Vol.19. No.3. pp. 92-97.

Miller, B.C., McCoy, J.K., Olson, T.D. and Mallace, C.M. 1986. **"Parental Discipline and Control Attempts in Relation to Adolescent Sexual Attitudes and Behaviour"**. Journal of Marriage and the Family. 48. 503-512.

Nag, Moni. 1996. **Sexual Behaviour and AIDS in India**. New Delhi: Vikas Publishing House Pvt Ltd.

National AIDS Control Programme - India. 2000. **Country Scenario**, Directorate of General of Health Services, Government of India, New Delhi.

Newcomer, S. and Udry, J. 1984. **"Mothers' Influence on the Sexual Behaviour of their Teenage Children"**. Journal of Marriage and Family. 46. 477-485.

Petosa, Rick and Jackson, Kirby. 1991. **"Using Health Belief Model to Predict Safer Sex Intentions Among Adolescents"**. Health Education Quarterly. Vol. 18(4): 463-476.

Rakesh, Anita. 1992. **"Premarital Sexual Attitudes and Behaviour among Adolescent Girls"**. Print Well Publishers: Jaipur.

Ramasubban, Radhika. 1992. **"Sexual Behaviour and Conditions of Health Care: Potential Risks for HIV Transmission in India"**. in Tim Dyson Edt. Sexual Behaviour and Networking: Anthropological and Socio-cultural Studies on the Transmission of HIV Liege.

Ramasubban, Radhika. 1995. **"Patriarchy and the Risks of HIV Transmission to Women in India"** In Das Gupta, M.M., Chen, L.C. and Krishnan, T.N. (eds.). "Women's Health in India Risk and Vulnerability". Oxford University Press, Mumbai.

Reddy, D. Narayana. 1980. **"A Report on Selected Urban (Madras) Sexuality"**. Paper Presented at IASECT II National Conference of Sexology Madras.

Reddy, D. Narayana, P. Eswar and A.K. Sreedharan. 1983. **"A Report on Urban (Madras) College Students' Attitudes towards Sex".** Antiseptic. September: 1-5.

Reddy, D. Narayana. 1989. **"Follow-up Report on Urban (Madras) College Students Attitudes towards Sex"**. Paper Presented at the IASECT V National Workshop on Sexology Mumbai.

Reddy, D. Narayana. 1990. **"A Report of Urban College Students Attitude Towards Sex"**. (mimeo).

Reddy, D. Narayana, Shivshankar, Meera and Ganesan, Uma. 1993. **"A Report on Select Urban (Madras) Sexuality with reference to Sexual Aspects of AIDS/STDs"**. Paper Presented at the Workshop on Sexual Aspects of AIDS/STD Prevention in India. Tata Institute of Social Sciences, Mumbai.

Savara, Mira and Sridhar, C.R. 1991. **"Sex Survey"**. Debonair. October.

Savara, Mira and Sridhar, C.R. 1993. **"Sexual Behaviour Patterns Amongst Men and Women in Maharashtra"**. Paper Presented at the Workshop on Sexual Aspects of AIDS/STD Prevention in India. Tata Institute of Social Sciences, Mumbai.

Savara, Mira and Sridhar, C.R. 1993a. **"Sexual Behaviour Patterns Amongst Educated Urban Women - Results of a Survey**", Shakti, Mumbai.

Sehgal, Virendra N., Sharma, A.K. and Bhattacharya, S.N. 1992. **"KABP Study on AIDS Among School Boys"**. Abstract Published in the 2nd International Congress on AIDS in Asia and the Pacific Abstract, Randmick, Australia: AIDS Society of Asia and the Pacific. p. 1920.

Sethi, Geeta. et.al. 1995. **"AIDs Risk Behaviour Study". Paper Presented at Indo-US Workshop on *"Behavioural Priorities"* Developing Effective Strategies for the Prevention of HIV in India"**. Tata Institute of Social Sciences, Mumbai.

Spanier, Graham. 1973. **"Sexual Socialization and Pre Marital Sexual Behaviour: An Empirical Investigations of the Impact of Formal and Informal Sex Education".** Dissertation Abstracts International 24. 6-A (Dec.): 3579.

Thornton, A. and Camburn, D. 1987. **"The Influence of Family on Pre-marital Sexual Attitudes and Behaviour"**. Demography. 24. 323-340.

Udry, Richard J. and Billy, John O.A. 1987. **"Initiation of Coitus in Early Adolescence"**. American Sociological Review. 52. 841-855.

Vellhal (1993) **"Knowledge about HIV/AIDS among College Students in Bombay**",Nair Hospital, Bombay.

Verma, Ravi K. and Latashori K. 1993. **"High Risk Behaviour Among Intravenous Drug Abusers in Manipur**". Unpublished Research Work. IIPS. Mumbai.

Watsa, M.C. 1994. **"Sexuality and Sexual Behaviour Among Urban Educated Youth in India: A Multicentric Study"**. Unpublished Report.

Winslow, Robert W. et.al. 1992. **"Perceived Peer Norms, Casual Sex and AIDS Risk Prevention"**. Journal of Applied Social Psychology. 22,23. pp. 1809-1827.

Zuckerman, Marvin Richard Tushup and Steven Finer. 1976. **"Sexual Attitude and Experience: Attitudes and Personality Correlates and Changes Produced by a Course in Sexuality"**. Journal of Consulting and Clinical Psychology 44. No. 1 (Feb.). 7-19.