

# Knowledge, Attitudes and Practices (KAP) Regarding Sexuality, Sexual Behaviors and Contraceptives Among College/ University Students in Karachi, Pakistan

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## ABSTRACT

**Objective:** To assess the knowledge, attitudes and practices regarding sexuality, high risk sexual behaviors and methods of contraception, among college/university students of Karachi, Pakistan.

**Study Design:** Cross-sectional observational study.

**Place and Duration of Study:** Higher Education Commission-recognized government and private colleges/universities in Karachi from 2005-2006.

**Methodology:** Two colleges/universities were randomly selected from each category i.e. government medical, government non-medical and private medical and non-medical colleges/universities. Three stage cluster sampling was employed to draw a representative sample of students. A self administered questionnaire was used to elicit information on knowledge, attitudes and practices regarding high risk sexual behaviors, methods of contraception and sources to obtain information about sexual issues.

**Results:** A total of 957 students were interviewed. They comprised 542 (56.6%) males and 415 (43.4%) females with mean age of  $21 \pm 1.8$  years. Bivariate analysis showed that students enrolled in medical colleges / universities were less likely to watch adult films (O.R. 0.7, CI; 0.5-0.9) to acquire sex related knowledge and go out on dates (O.R. 0.6, CI; 0.4-0.8). Similarly, medical students were less likely to consider contraception as being against Islamic teachings (O.R. 0.7, CI; 0.5-0.9).

**Conclusion:** The curricula of non-medical studies at undergraduate level should include education regarding sexual health and contraception.

**Key words:** Sexuality. Sexual behaviors. Contraceptives. College/university students. Marriage.

## INTRODUCTION

The United Nations General Assembly defined 'youth' as persons falling between the ages of 15 and 24 years.<sup>1</sup> World's youth population is about 1,773 million, with 54.2 million residing in Pakistan.<sup>2</sup>

Youth has a distinct identity and issues from children or the adults. The escalating youth population in developing countries confronts new situations and threats to their present health status.<sup>3</sup> Youth in South Asia lack basic rights of making free reproductive choices related to sex and marriage.<sup>4</sup>

Sexuality is a central aspect of being human throughout life. These include sex, gender identities and roles, sexual orientation, and reproduction.<sup>5</sup> While studies have determined the KAPs of youth regarding sexual transmitted infections (STIs) and human immunodeficiency virus/acquired immunodeficiency disease

syndrome (HIV/AIDS), none covered the KAPs of youth regarding sexuality in Pakistan, especially at population level.<sup>6</sup> It has also been mentioned by various researchers that the issue of sexuality is too sensitive to be touched among youth in a volatile country like Pakistan.<sup>7</sup>

Risky sexual behaviors have direct link to communicable diseases such as HIV/AIDS and STIs.<sup>8</sup> Moreover, dearth of knowledge about sexuality not only contributes to risk taking behaviors,<sup>4</sup> but also has direct implications on the HIV/AIDS and STIs transmission.<sup>9</sup> This is extremely important in countries like Pakistan, where the burden is much higher than reported.<sup>10</sup>

Previous research in Pakistan did not address sexuality directly but studied knowledge regarding STIs and HIV/AIDS. A study conducted in one of the rural district of Pakistan by Afsar *et al.* reported that youth rarely discuss sex issues with their elders or family members.<sup>11</sup> Similarly, Farid *et al.* reported a number of misconceptions related to transmission of HIV/AIDS.<sup>12</sup>

Research in India, where the culture is relatively more culture, has shown that students generally lacked the knowledge regarding STIs, HIV/AIDS and various aspects of sexuality.<sup>13,14</sup> Therefore, it becomes imperative to study these topics in Pakistan.

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Research suggests that in patriarchal societies like Pakistan, women are not given their full rights.<sup>15</sup> Therefore, it is also important to determine the difference between KAPs of male and female students. Similarly, the difference between medical and non-medical students is also important to understand how future interventions could cater each group better.

The current study pursues a novel subject in the Pakistani setting with the objective of assessing the KAPs regarding sexuality, high risk sexual behaviors and knowledge about contraception methods, and comparing these variables between male and female, medical and non-medical college/university students in Karachi.

### METHODOLOGY

This cross-sectional study was conducted from October to November, 2005 in HEC recognized government and private, medical and non-medical colleges/universities in Karachi city. Due to unavailability of the prevalence figures for knowledge regarding sexuality and high risk behaviors in youth of Pakistan, the maximum sample size of 770 was calculated using 50% knowledge about sexuality and high risk behaviors, HIV and STIs, a design effect of 2.0 (employing cluster sampling), a bond of error of 5% and an alpha error of 0.05. On adding 10% to the required sample to adjust for non-response, a sample of at least 845 was required.

To reach to the required sample, three staged cluster sampling was employed. Firstly, the HEC recognized undergraduate colleges/universities in Karachi were stratified into four categories: private medical, private non-medical, public medical and public non-medical. Two colleges in each category were selected randomly.

In each of the selected colleges, the administration was requested to furnish the list of students. After receiving the lists from all the selected institutions, the number of students sampled was determined to reach the required sample of at least 845 students from all colleges (weighted according to number of students). Finally, the required numbers of students were sampled from the list given by each of the selected colleges using simple random sampling.

A self administered pre-tested questionnaire was given to students who consented to take part in the survey. The questionnaire elicited information related to socio-demographic characteristics and sources to talk and acquire knowledge regarding matters related to sex and sexual issues.

To manage data, filled questionnaires were checked for missing information and wrong entries during field editing by fieldworkers and field supervisors and office editing by office editor. The data entry program was developed using statistical package of EPI-Info version

6. Two independent entries of the same data forms were done and then entries were validated to identify inconsistencies. The hard copies of data were reviewed to correct inconsistencies.

The data analysis was done using Statistical Package for Social Sciences (SPSS). Descriptive analysis was done to calculate means and standard deviations for the continuous variables and to run frequencies for the nominal and ordinal variables. Univariate analysis was conducted by calculating Odds Ratio using gender and type of institute (medical and non-medical colleges/universities) as exposures and KAPs regarding sexual issues and contraception as outcome.

### RESULTS

Nine hundred and fifty seven undergraduate college/universities students of Karachi were included in the study. They comprised 542 (56.6%) males and 415 (43.4%) females (Table I) with mean age of 21 ±1.8 years.

**Table I:** Socio-demographic characteristics of students aged 18-24 years studying in HEC recognized institutes in Karachi.

Variable	Frequency (n= 957)	Percentage
Gender		
Male	542	56.6
Female	415	43.4
Age of students (mean 21 ± 1.8 )		
Area of residence		
Karachi	801	83.7
Other areas of Pakistan	105	11.0
Foreign countries	51	5.3
Medium of instructions during primary and secondary schooling		
English medium	737	77.0
Urdu medium	87	9.1
Both	75	7.8
Others	58	6.1
Person supporting education		
Self	146	15.3
Parents	767	80.1
Others	44	4.6
Whether working for regular income		
No	624	65.2
Part time only	204	21.3
Occasionally	71	7.4
Full time	58	6.1

Only 444 (46.4%) participants reported to have ever talked with someone regarding sexual problems. Friends (n=402, 42%) were the most common source to discuss sex issues. The four most common sources to acquire knowledge related to sex were friends (n=349, 36.5%), television / internet (n=297, 31.0%) and books (n=311, 32.5%).

Among the 957 participants, 203 (21.2%) reported that they would select their life partners themselves. About

344 (36%) students agreed that women can express sexual desires openly and 317 (33.1%) thought that a single man and 321 (33.5%) reflected that a single woman could have pre-marital sex in intimate or casual relationship.

Five hundred and fifty five (58%) students were aware about contraceptive methods and major source of information reported were friends (n=405, 42.3%) and television (n=347, 36.3%). Further, 308 (32.2%) reported that use of modern contraceptives is against Islamic philosophy.

**Table II:** Univariate analysis of gender as exposure and variables related to personal information as outcomes among students aged 18-24 years studying in HEC recognized institutes in Karachi.

Variables	Male	Percentage	Female	Percentage	Odds Ratio
Whether interact with stranger					
Easily and somewhat easily	498	58.2	358	41.8	
Never	44	43.6	57	56.4	1.8 (1.1-2.7)
Whether allowed to go on dates					
Yes always or sometimes	176	71.5	70	28.5	
Never	366	51.5	345	48.5	2.3 (1.7-3.2)
Whether life Partner will be selected					
By myself	130	64.0	73	36.0	
With parents' approval or an arranged marriage	412	54.6	342	45.4	1.4 (1.0-2.3)
Whether it is important to fall in love					
Important	91	50.0	91	50.0	
Uncertain or not important	451	58.2	324	41.8	0.7 (0.5-0.9)
Whether women should express sexual desires					
Agree or strongly agree	224	64.2	125	35.8	
Disagree or strongly disagree or uncertain	318	52.3	290	47.7	1.6 (1.2-2.1)
Should single men have pre-marital sex					
In intimate or casual relationships with commercial sex worker (CSW) or man	200	63.1	117	36.9	
Under no circumstances	342	53.4	298	46.6	1.5 (1.1-2.0)
Whether single women have premarital sex					
In intimate or casual relationships	194	60.4	127	39.6	
Under no circumstances	348	54.7	288	45.3	1.3 (1.0-1.7)
Talk to brother-in-law about sexual problem					
No	507	57.9	368	42.1	
Yes	35	42.7	47	57.3	0.5 (0.3-0.8)

**Table III:** Univariate analysis of type of institute as exposure and variables related to personal information as outcomes among students aged 18-24 years studying in HEC recognized institutes in Karachi.

Variables	Medical	Percentage	Non-medical	Percentage	Odds Ratio
Whether interact with stranger					
Easily and somewhat easily	391	45.7	465	54.3	
Never	40	39.6	61	60.4	1.2 (0.8-1.9)
Whether allowed to go on dates					
Yes always or sometimes	91	37.0	155	63.0	
Never	340	47.8	371	52.2	0.6 (0.4-0.8)
Whether life Partner will be selected					
By myself	74	36.5	129	63.5	
With parents approval or an arranged marriage	357	47.3	397	52.7	0.6 (0.4-0.8)
Whether it is important to fall in love					
Important	89	48.9	93	51.1	
Uncertain or not important	342	44.1	433	55.9	1.2 (0.8-1.6)
Whether women should express sexual desires					
Agree or strongly agree	168	48.1	181	51.9	
Disagree or strongly disagree or uncertain	263	43.3	345	56.7	1.2 (0.9-1.5)
Should single men have pre-marital sex					
In intimate or casual relationships with commercial sex worker (CSW) or man	308	48.1	332	51.9	
Under no circumstances	123	38.8	194	61.2	1.4 (1.1-1.9)
Whether single women have premarital sex					
In intimate or casual relationships	276	43.4	360	56.6	
Under no circumstances	155	48.3	166	51.7	0.8 (0.6-1.0)
Talk to brother-in-law about sexual problem					
No	366	41.8	509	58.2	
Yes	65	79.3	17	20.7	5.3 (3.0-9.2)

Males were more likely to discuss about sexual problems as compared to females (O.R = 1.6, 95% CI; 1.2-2.1). While as compared to female students, male students were more likely to discuss about sexual problems with their friends (O.R = 1.9, 95% CI; 1.9 (1.4-2.4), they were less likely to discuss with their mother (O.R = 0.2, 95% CI; 0.2-0.4), sister (O.R = 0.2, CI; 0.1-0.4), and brother-in-law (O.R = 0.5, CI; 0.3-0.8). Further, male students used adult films (O.R = 1.6, CI; 1.1-2.2) and internet (O.R = 2.3, CI; 1.7-3.2) more as sources to gain information related to sex as compared to female students. Table II presents the sexual behaviors by gender.

On comparing students from medical and non-medical institutes, medical students were more likely to talk about sexual problems with their father (O.R = 3.4, CI; 2.3-5.0), mother (O.R = 1.7, CI; 1.2-2.4), brother (O.R = 2.5, CI; 1.7-3.7), teacher (O.R = 1.8, CI; 1.2-2.7), aunt (O.R = 2.5, CI; 1.5-4.0), grandfather (O.R = 4.8, CI; 2.7-8.7), grandmother (O.R = 3.2, CI; 1.9-5.5), brother-in-law (O.R = 5.3, CI; 3.0-9.2), and sister-in-law (O.R = 2.3, CI; 1.3-3.9) as compared to non medical students.

Medical students showed more interest in reading books (O.R = 1.4, CI; 1.1-1.9) to acquire information related to sex. In contrast to that, students from non-medical institutes were more likely to watch adult films (O.R. 0.7, CI; 0.5-0.9) to acquire sex related knowledge. Furthermore, medical students knew more about contraceptive methods (O.R. 2.4, CI; 1.8-3.1) and were less likely to think that contraceptive methods are against Islamic philosophy (O.R. 0.7, CI; 0.5-0.9). Table III presents the sexual behaviors by type of institute.

## DISCUSSION

The current study is a ground breaking work on a very sensitive area of KAP regarding sexuality and sexual behaviors among students in Karachi, Pakistan. Although researchers in Pakistan have endeavored in this area,<sup>7,11</sup> but none sampled a representative sample of undergraduate institutes and compared KAPs variables by gender and type of institute - medical and non-medical.

The results showed that even in a close knit society of Pakistan where a majority of families live in extended family system, students used friends rather than family members as most common source to talk and acquire knowledge regarding sex and sex problems. This information is consistent with the studies in India.<sup>16,17</sup>

The reasons for reluctance to talk about such topics with family members are the social stigmatization and coercive social norms.<sup>18</sup> It was felt that due to unavailability of reliable information, youth tended to gain information on sex and sexual problem from friends and/or through adult films. As a result, youth are poorly or incompletely informed. This can lead to unsafe sexual behaviors.

However, literature suggests that hesitation to discuss sexual issues with family members and not having support from parents worsens the situation.<sup>19</sup> This finding also alludes towards importance of educating youth and their parents on such sensitive topics to empower them to become effective peer educators.

In contrast to males, females are more bound to their houses due to the social and family dynamics.<sup>20</sup> Because of this, female students preferred mother and brother-in-law as sources to talk about sex issues, while male students felt more comfortable talking to friends. This could be due to the fact that girl students prefer talking to their married sisters about their sex related issues. To have male's perspective, sister's husband is also involved in the discussion. However, this is an unusual finding in Pakistani setting and needs further study.

Overall, the study showed that males tend to report sexual attitudes and practices more than females. This is consistent with studies conducted in the region and internationally.<sup>21</sup> Hindin *et al.* reported male being more prone to talk to strangers as compared to females.<sup>22</sup> These are important findings as it shows that irrespective the context and religious bonding, males show more extrovert behavior than females.

In this study, males as compared to females reported more that it is fine for a man to have sex before marriage. This finding is consistent with the study by Hindin *et al.*;<sup>16</sup> however, the proportions were higher for both the groups in this study than Indian study. The possible reason could be that the questionnaire was self administered and therefore, students got autonomy to report more independently. The future studies should look into validity and reliability of such tools when administered one-to-one versus self administered.

These results showed that overall students lacked knowledge regarding contraception. This is consistent with the study conducted in India by Sachdev.<sup>22</sup> However, contraceptives injections and condoms were known to more than 50% students. The reason for this knowledge is perhaps the rigorous media campaigns of the social sector organization in Pakistan.<sup>23</sup>

The comparison of medical and non-medical college students revealed that non-medical students watched adult films more often than the medical students. Further studies are needed to explore the impact of such films.

The other alarming finding is that a significant proportion of non-medical students in this study thought that contraception is against Islamic philosophy. This is perhaps one of the key reasons for such low contraceptives prevalence rate (CPR) of Pakistan.<sup>24</sup> It is imperative to understand that while attitudes related to many sex related matters are changed, attitude toward use of contraceptives has not changed even in the current generation of college students.



## CONCLUSION

College students, especially from non-medical institutes demonstrated less knowledge but more openness towards sex related matters. Most students preferred friends to discuss sexual issues. This, along with the fact that the dynamics of HIV/AIDS are rapidly changing in Pakistan, points out towards an urgent need of a comprehensive educational package for college/university students, especially for those studying in non- medical institutes.

The current generation of college students relates the use of contraceptives as an act against Islamic values. There is an urgent need to understand the reason for such feelings and to prepare an intervention to change such beliefs.

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## REFERENCES

1. United Nation Organisation. Youth and the United Nations [Internet]. [updated 2002; cited 2006]. Available from: <http://www.un.org/esa/socdev/unyin/qanda.htm>
2. Population Reference Bureau. The world's youth 2006 data sheet [Internet]. [cited 2006]. Available from: <http://www.prb.org/Publications/Datasheets/2006/PRBsTheWorldsYouth2006DataSheetPaintsaMixedPictureforAdolescents.aspx>
3. World Health Organisation. Child and adolescent health and development: progress report 2000-2001 [Internet]. [cited 2006]. Available from: [http://whqlibdoc.who.int/hq/2001/WHO\\_FCH\\_CAH\\_01.12.pdf](http://whqlibdoc.who.int/hq/2001/WHO_FCH_CAH_01.12.pdf)
4. Singh E. Adolescent reproductive health in South Asia: key issues and priorities for action [Internet]. [cited 2006]. Available from: [http://www.who.int/reproductivehealth/publications/towards\\_adulthood/4.pdf](http://www.who.int/reproductivehealth/publications/towards_adulthood/4.pdf)
5. World Health Organization. Department of Reproductive Health and Research (RHR). Gender and reproductive rights: working definition [Internet]. [cited 2006]. Available from: [http://www.who.int/reproductive-health/gender/sexual\\_health.html#2](http://www.who.int/reproductive-health/gender/sexual_health.html#2)
6. Ali S, Khanani R, Tariq WU, Shah SA. Understanding the HIV/AIDS context in Pakistan. *J Pak Med Assoc* 2006; **56**:S12-5. Republished from: *Venerology* 1995; **8**:160-63.
7. Qidwai W. Sexual knowledge and practices in Pakistani young men. *J Pak Med Assoc* 1999; **49**:251-4.
8. Biglan A, Metzler CW, Wirt R, Ary D, Noell J, Ochs L, et al. Social and behavioral factors associated with high-risk sexual behaviour among adolescents. *J Behav Med* 1990; **13**:245-61.
9. International Council of AIDS Service Organizations. Gender, sexuality, rights and HIV: an overview for community sector organizations [Internet]. 2007. [cited 2008]. Available from: [www.icaso.org/publications/genderreport\\_web\\_080331.pdf](http://www.icaso.org/publications/genderreport_web_080331.pdf)
10. Hyder AA, Khan OA. HIV/AIDS in Pakistan: the context and magnitude an emerging threat. *J Epidemiol Community Health* 1998; **52**:579-85.
11. Afsar HA, Mahmood MA, Barney N, Ali S, Kadir MM, Bilgrami M. Community knowledge, attitude and practices regarding sexually transmitted infections in a rural district of Pakistan. *J Pak Med Assoc* 2006; **56**:S50-4. Republished from: *J Pak Med Assoc* 2002; **52**:21-4.
12. Farid R, Choudhry AJ. Knowledge about AIDS/HIV infection among female college students. *J Coll Physicians Surg Pak* 2003; **13**:135-7.
13. Lal SS, Vasan RS, Sarma PS, Thankappan KR. Knowledge and attitude of college students in Kerala towards HIV/AIDS, sexually transmitted diseases and sexuality. *Natl Med J India* 2000; **13**: 231-6.
14. Aggarwal O, Sharma AK, Chhabra P. Study in sexuality of medical college students in India. *J Adolesc Health* 2000; **26**:226-9.
15. Hadi S. Women's rights in Pakistan: a forensic perspective. *Med Sci Law* 2003; **43**:148-52.
16. Jaya, Hindin MJ. Pre-mmarital romantic partnerships: attitudes and sexual experiences of youth in Delhi, India. *Int Perspectives Sex Reprod Health* 2009; **35**:97-104.
17. International Institute for Population Sciences (IIPS) and Population Council. Youth in India: situation and needs 2006-2007. Maharashtra: IIPS; 2010.
18. Lakshmi PV, Gupta N, Kumar R. Psychosocial predictors of adolescent sexual behavior. *Indian J Pediatr* 2007; **74**:923-6.
19. Jejeebhoy SJ, Sebastian MP. Actions that protect: promoting sexual and reproductive health choices among young people in India, South and East Asia: regional working papers [Internet]. New Delhi: Population Council; 2003. Available from: <http://www.popcouncil.org/pdfs/wp/seasia/seawp18.pdf>
20. Hussain R, Bittles AH. The prevalence and demographic characteristics of consanguineous marriages in Pakistan. *J Biosoc Sci* 1998; **30**:261-75.
21. Ghule M, Balaiah D, Joshi B. Attitude towards premarital sex among rural college youth in Maharashtra, India. *Sex Cult* 2007; **11**:1-17.
22. Sachdev P. Sex on campus: a preliminary study of knowledge, attitudes and behaviour of university students in Delhi, India. *J Biosoc Sci* 1998; **30**:95-105.
23. Fikree FF, Khan A, Kadir MM, Sajjan F, Rahbar MH. What influences contraceptive use among young women in urban squatter settlements of Karachi, Pakistan? *Int Fam Plann Perspect* 2001; **27**:130-6.
24. Ali M, Ushijima H. Perceptions of men on role of religious leaders in reproductive health issues in rural Pakistan. *J Biosocial Sci* 2005; **37**:115-22.

