

**EFFECT OF HUMAN SEXUALITY EDUCATIONAL  
INTERVENTION ON KNOWLEDGE AND ATTITUDE OF  
COLLEGE STUDENTS AT SELECTED COLLEGES,  
AMRITSAR, PUNJAB**

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**Abstract**

The aim of this study was to examine the knowledge and attitude of college students towards human sexuality and to impart them with appropriate information on human sexuality issues. A quasi experimental research design with randomization and one group pre-test and post-test was used for the study. Simple random sampling with lottery method was used to select 180 students from 3 colleges of Amritsar. 60 students were selected from each college from arts, commerce, and science streams, students are further divided in groups and each group consisted of 10 students. The data were collected using standardised Miller Fisk Sexual Knowledge Questionnaire ( $r=0.78$ ) and Standardised Hendrick Sexual attitude scale ( $r=0.83$ ). Human sexuality educational intervention was given to students in 3 educational sessions for 8 weeks. Findings revealed that in pre-test students had average knowledge (52.66%) and neutral attitude (54.88%) on various aspects of human sexuality issues whereas in post-test students had good knowledge (77.45%) and satisfactory attitude (72.61%) on various aspects of human sexuality issues. The paired 't' test was calculated and found that there was highly significant difference between pre-test and post-test knowledge and attitude scores. Chi-square test shows that there was no significant association between the knowledge and attitude scores with the demographic variables. Karl Pearson's coefficient of correlation analysis between knowledge and attitude ( $r = 0.42$ ) shows significant relation, which reveals that when knowledge level increases, the attitude also will improve.

**Key words:** Human sexuality, Sexuality knowledge, Sexuality attitude, College students.

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## Back ground

Awareness of sexual and reproductive matters among university students is limited and only fewer students are exposed to sexuality education in school, college or university and therefore they are more prone of getting engaged in risky sexual behaviours resulting in complications like HIV/AIDS, suicide, death, indulging in criminal activities i.e. rape.<sup>1</sup>

Worldwide rape or sexual harassment is the most common crime against women. Nearly 1 in 5 women and 1 in 71 men in the U.S. have been raped at some times in their lives. In India, according to the National Crime Records Bureau, 24,206 rape cases were registered in 2011. Besides this, the 2012 Delhi gang rape case involves a rape and murder of a 23-year-old female physiotherapy intern in a private bus in which she was travelling with a male friend and the 2013 Mumbai gang rape case involves the incident in which a photo-journalist, who was interning with an English magazine in Mumbai, was gang-raped by five persons. Besides this in India as well as worldwide, there are so many rape cases that can be found in daily newspapers and still there are cases which remain unnoticed. It is estimated that a new rape case is reported every 20 minutes.<sup>2</sup>

81% of college students at Texas (USA) had had sexual intercourse at least once during their campus study<sup>3</sup>. Studies focusing on sexual experiences amongst college-going students in India are relatively rare, and majority of these studies are exploratory studies. In Madras, about 61% of male and 48% of female college students had reported that they had experienced sexual intercourse and majority of this experience was premarital<sup>4</sup>. In Newdelhi Universities it is estimated that 49% of male student and 38% of female students had engaged in pre-marital sex<sup>5</sup>. In Hyderabad, 38% of college students had sexual intercourse<sup>6</sup>. 18% of male university students in Gujarat are sexually experienced<sup>7</sup>.

Lack of parental control, substance use, peer pressure, campus & outside environment are main predisposing factors for risky sexual behaviour among college students<sup>8</sup>.

These findings provide a strong need for imparting sexual education especially to college students because human sexuality education has the potential to inform students and thereby potentially reduce social problems related to teenage pregnancy, sexually transmitted infections and sexual abuse and harassment, as well as enhance interpersonal relationships, sexual health, and acceptance of variations in sexual beliefs and practices<sup>9</sup>.

## Materials and methods

**Research Design:** A Quasi-experimental research design with randomization & one group pre-test and post-test was used for the study.

**Setting of the study:** The study was conducted at three institutions of Amritsar (Punjab) i.e. from February 2014 to April 2014.

**Population:** The population for the present study comprised of arts, law, science & commerce students of M.K. group of institutes; Global institutes and SVM college of Amritsar, Punjab.

**Sample size/ Sampling technique:** 180 students were selected by Simple random sampling technique (lottery method) from M.K. group of institutes; Global institutes and SVM college of Amritsar, Punjab.

### Development & description of the Tool

The Standardised Miller Fisk Sexual Knowledge Questionnaire (SKQ) (Gough, 1974) and Standardised Hendrick Sexual attitude scale (HSAS) (Hendrick and Hendrick, 1987) were used for the present study after obtaining approval from the tool developers. The reliability of these tools were checked by conducting pilot study on 18 students of Khalsa college at Amritsar and the reliability was found as  $r = 0.73$  and  $r = 0.86$  respectively.

### Intervention:

Human sexuality educational intervention.

The intervention was divided into 3 educational sessions; duration of each session was 45 minutes to 1 hour:

**1<sup>st</sup> session** : This session provided information on human sexual development; female & male reproductive anatomy; conception, pregnancy and child birth.

**2<sup>nd</sup> session** : This session provided information on sexual practice and behaviour; contraception and abortion; STDs (sexually transmitted diseases); sexuality across life span and sexual dysfunction.

**3<sup>rd</sup> session** : This session provided information on permissiveness; communion in relationship and instrumentality.

### Data Collection Procedure

Step 1 : Random selection of 60 students from each college respectively.

Step 2 : Students were divided into groups as follows:

Name of Institution	Course undergoing	Number of students	Groups	Number of students in each group
M.K. group of institutes	Arts, law, science, commerce.	60	6	10
Global institutes	Arts, law, science, commerce.	60	6	10
SVM College	Arts, law, science, commerce.	60	6	10

Step 3 : All the students were given pre-test.

Step 4 : For one group consisting of 10 students, the human sexuality educational intervention was given for 3 days. On day 1<sup>st</sup>, the first session of the human sexuality educational intervention was implemented; on day 2<sup>nd</sup>, the second session of the human sexuality educational intervention was implemented; and on day 3<sup>rd</sup>, the third session of the human sexuality educational intervention was implemented. 7 days after the completion of 3<sup>rd</sup> session of human sexuality educational intervention, post-test was administered to this group. The remaining groups also received intervention and post-test in same sequence.

### Results

Distribution of students according to demographic characteristics revealed that most of the students (81.66%) were in the age group of <20 years; 42.22% were belonging to art side; 41.11% were studying in 2<sup>nd</sup> year; 92.77% were unmarried; 52.22% reported internet as the source of knowledge about sex; 48.88% of student's family monthly income was >30000 rupees per month; 73.88% were belonging to nuclear family; 81.11% were belonging to urban area; 76.66% used to date one or more friends and 50% of them had premarital sexual experience. (Table 1)

**Table 1: Description of demographic characteristics of students:**

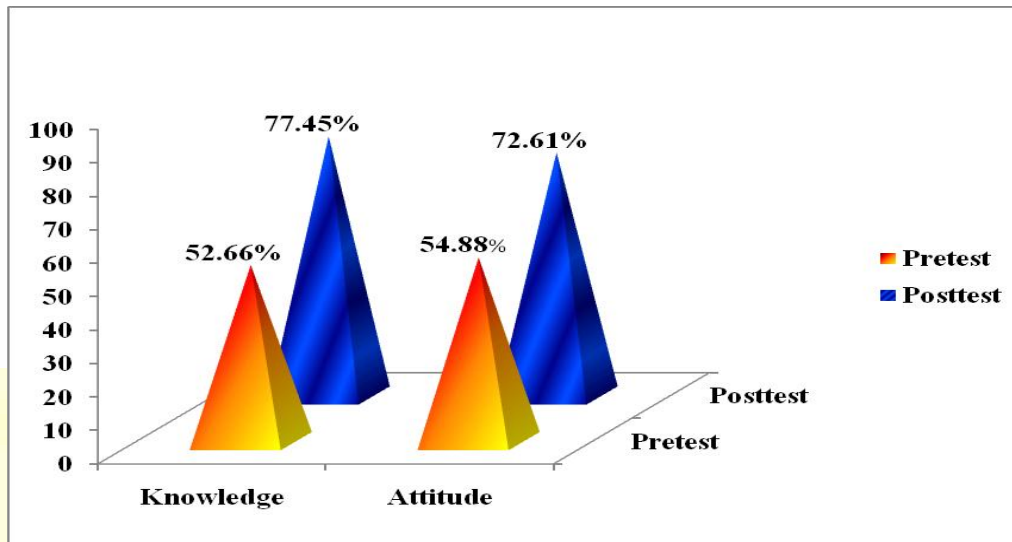
*n* = 180

Demographic characteristics	Frequency (f)	Percentage (%)
<b>1. Age</b>		
i. < 20 years	147	81.66
ii. 20- 25 Years	33	18.33
<b>2. Course of study</b>	76	42.22
i. Art	56	31.11
ii. Law	32	17.77
iii. Science	16	8.88
iv. Commerce		
<b>3. Year in college</b>		
i. 1 <sup>st</sup> year	40	22.22
ii. 2 <sup>nd</sup> year	74	41.11
iii. 3 <sup>rd</sup> year	66	36.66
<b>4. Relationship status</b>		
i. Married	13	7.22
ii. Single	167	92.77
iii. Divorced	-	-
iv. Separated	-	-
<b>5. Sources of previous learning about sex</b>		
i. Books, magazines.	22	12.22
ii. Internet.	94	52.22
iii. Friends	62	34.44
iv. Parents	2	1.1
<b>6. Parent's income (monthly)</b>		
i. <10000	4	2.2
ii. 10000-20000	16	8.8
iii. 20000-30000	72	40
iv. >30000	88	48.88
<b>7. Type of Family</b>		
i. Nuclear	133	73.88
ii. Joint	47	26.11
<b>8. Residential area</b>		
i. Urban	146	81.11
ii. Rural	34	18.88
<b>9. Dating/ relationship status</b>		
i. Does not date	42	23.33
ii. Dating one or more people	138	76.66
<b>10. Sexual experience history</b>		
i. Premarital sex	90	50
ii. Post marital sex	10	5.55
iii. None	80	44.44

**Table 2: Area wise comparison of mean, SD, and mean percentage of pre-test and post-test knowledge scores of students regarding human sexuality.**

Knowledge Scores								
Area	Max score	Pre test			Post test			Difference Difference in mean %
		Mean	SD	Mean %	Mean	SD	Mean %	
Human sexual development	5	1.21	1.08	24.2	2.73	1.87	54.6	30.4
Male & female reproductive anatomy	8	3.27	0.96	40.87	5.34	1.01	66.75	25.88
Contraceptive methods	7	3.28	0.73	46.85	5.76	2.89	72	25.15
STDs (Sexually Transmitted Diseases)	4	2.32	1.87	58	3.44	2.73	86	28
<b>Over all total</b>	<b>24</b>	<b>12.64</b>	<b>3.42</b>	<b>52.66</b>	<b>18.59</b>	<b>2.23</b>	<b>77.45</b>	<b>24.79</b>

Comparison of overall and area wise knowledge scores reveal that overall mean score of pre- test was  $12.64 \pm 3.42$  which is 52.66% of the total score whereas in the post-test the mean score was  $18.59 \pm 2.23$  which is 77.45% of the total score. Thus depicting that the overall difference in mean percentage was 24.79%, hence it is interpreted that the Human Sexuality educational intervention was effective in improving the knowledge of college students on various aspects of human sexuality. Further, area wise assessment showed that the highest post-test mean score was  $3.44 \pm 2.73$  which is 86% of total score were for the area “STDs”. The lowest post-test mean scores were  $2.73 \pm 1.87$  which is 54.6% of the total score was obtained for the area “Human Sexual Development”. (Table 2 & Figure 1)



**Figure 1: Percentage wise Knowledge Score and Attitude Score of Students in pre-test & Post-test**

**Table 3: Area wise comparison of mean, SD, and mean percentage of pre-test and post-test attitude scores of students regarding human sexuality.**

Area	Max score	Pre test			Post test			Difference in mean %
		Mean	SD	Mean %	Mean	SD	Mean %	
Permissiveness	105	34	4.32	32	48.76	3.98	46	14
Sexual practice	35	19.76	3.16	56.45	24.17	2.78	69.05	12.6
Communion in the relationship	45	26.74	2.74	59.42	35.17	4.74	78.15	18.73
Instrumentality	30	15.58	3.91	51.93	21.42	3.87	71.4	19.47
<b>Over all total</b>	<b>215</b>	<b>118.76</b>	<b>4.88</b>	<b>54.88</b>	<b>156.12</b>	<b>5.72</b>	<b>72.61</b>	<b>17.73</b>

Comparison of mean, SD, and mean percentage of pre and post test attitude scores of students on human sexuality reveals that the highest post-test mean score ( $35.17 \pm 4.74$ ) which is 78.15% of the total score was for the area “Communion in the relationship” which was also highest during pre-test ( $26.74 \pm 2.74$ ) which is 59.42% of the total score and the difference was 18.73%. However the lowest post-test mean score (46%) was for the area “Permissiveness”. Further the highest effectiveness (19.47%) was for the area “Instrumentality”. In other areas difference varies from 12.6% to 18.73%. The overall mean percentage of pre test was 54.88 %, whereas in the post test mean percentage was 72.61%, thus depicting the overall difference in mean

percentage was 17.73%. Hence it is interpreted that the Human Sexuality educational intervention was effective in improving the attitude of college students regarding human sexuality. (Table 3 & Figure 1).

**Table 4: Paired ‘t’ value of pre test and post test knowledge score of students regarding human sexuality**

Sl.No.	Area	‘t’ value	Level of significance
1	Human sexual development	10	Highly significant
2	Contraceptive methods	7.25	Highly significant
3	Male & female reproductive anatomy	4.92	Highly significant
4	STDs.	9.14	Highly significant

(df : 179, table value : 2.67,  $P < 0.01$  : highly significant)

Paired ‘t’ test which was calculated to analyze the difference in pre-test and post-test knowledge scores of students on different aspects of human sexuality and highly significant difference was found in all the area of tracheostomy care at  $P < 0.01$ .

**Table 5: Paired ‘t’ value of pre test and post test attitude score of students regarding human sexuality**

Sl.No.	Area	‘t’ value	Level of significance
1	Permissiveness	4.85	Highly significant
2	Sexual practice	9.42	Highly significant
3	Communion in the relationship	2.88	Highly significant
4	Instrumentality	10.25	Highly significant

(df : 179, table value : 2.67,  $P < 0.01$  : highly significant)

Paired ‘t’ test which was calculated to analyze the difference in pre-test and post-test attitude scores of students on different aspects of human sexuality and significant difference was found in all the area of human sexuality at  $P < 0.01$ .



**Table 6: Association between post test knowledge score and demographic variables of students**

Sl.No.	Variables	df	Table value	Chi square value	Level of significance
1	Age	1	3.841	0.018	Not significant
2	Gender	1	3.841	1.438	Not significant
3	Course of studying	1	3.841	3.554	Not significant
4	Years in college	1	3.841	0.05	Not significant
5	Relationship status	1	3.841	0.362	Not significant
6	Source of previous learning about sex	1	3.841	1.98	Not significant
7	Parent's monthly income	1	3.841	2.97	Not significant
8	Type of family	1	3.841	1.85	Not significant
9	Residential area	1	3.841	3.56	Not significant
10	Dating/relationship status	1	3.841	1.19	Not significant
11	Sexual experience history	1	3.841	2.59	Not significant

(P > 0.05: Not significant)

Chi square was calculated to find out the association between the post test knowledge score and the demographic variables of students and no significant association was found at P > 0.05.

**Table 7: Association between post test attitude score and demographic variables of students**

Sl.No.	Variables	df	Table value	Chi square value	Level of significance
1	Age	1	3.841	1.18	Not significant
2	Gender	1	3.841	0.06	Not significant
3	Course of studying	1	3.841	0.20	Not significant
4	Years in college	1	3.841	0.01	Not significant
5	Relationship status	1	3.841	3.69	Not significant

6	Source of previous learning about sex	1	3.841	1.10	Not significant
7	Parent's monthly income	1	3.841	2.34	Not significant
8	Type of family	1	3.841	1.67	Not significant
9	Residential area	1	3.841	0.96	Not significant
10	Dating/relationship status	1	3.841	1.81	Not significant
11	Sexual experience history	1	3.841	2.13	Not significant

(P > 0.05: Not significant)

Chi square was calculated to find out the association between the post test attitude score and the demographic variables of students and no significant association was found at P > 0.05.

**Table 8: Relationship between post test knowledge and attitude score of students regarding human sexuality.**

Variable	Df	'r' value	Table value	Level of significance
Knowledge and attitude	178	0.42	0.27	P<0.05 significant

Karl Pearson co-efficient of correlation analysis between knowledge and attitude scores shows significant relationship between knowledge and attitude. Hence there was positive relationship between the knowledge and attitude.

## DISCUSSION

The college students had average knowledge (52.66%) on different aspects of human sexuality prior to the implementation of Human Sexuality Educational Intervention whereas the college students had good knowledge (77.45%) after the implementation of Human Sexuality Educational Intervention and this finding was supported by Garrison CZ et al (2004) who also reported that after attending the human sexuality course the college students knowledge was

improved from 49.75% to 68.89% and recommended that the college and universities should make provision of educating their students on sexuality aspects in order to reduce the engagement of students in risky sexual behaviour<sup>10</sup>. The college students had neutral attitude (54.88%) on human sexuality prior to the implementation of Human Sexuality Educational Intervention whereas the college students had satisfactory attitude (72.61%) after the implementation of Human Sexuality Educational Intervention and this finding was supported by Derman KH (2011) who revealed that college students had positive changes in their attitudes regarding sexual behaviour, relationship, prejudice and tolerance for alternative life styles & practices after attending the sexual health program<sup>11</sup>.

### RECOMMENDATIONS

- A large scale study can be done for the generalization of findings.
- An experimental study can be undertaken with control group.
- A comparative study can be conducted on knowledge, attitude and behaviour of students regarding human sexuality.

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