

Effectiveness of College Students' Contraceptive Practice on Sexual Knowledge, Sexual Attitude, and Optimistic Bias of Venereal Disease

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Abstract

This study aimed to identify the relationships of college students' contraceptive practice with their sexual knowledge, sexual attitude, and optimistic bias of venereal disease, and to identify the influencing factors on it. 148 students in a university participated in the study. Contraceptive practice showed positive correlations with sexual knowledge, pleasurable sexual attitude, and responsibility sexual attitude. Stepwise multiple regressions identified sexual knowledge and pleasurable sexual attitude as the influencing factors on contraceptive practice, but with a low testing power of 15.6%. We found that high sexual knowledge and positive sexual attitude lead to better practice for contraception. However, as the degree of influence was low, further research to identify the influencing factor on contraceptive practice is needed. On the other hand, the sexual education of college students needs to provide more concrete methods besides condom for contraceptive practice including the use of various instruments such as emergency contraceptive drug for more effective results.

Keywords: *contraceptive practice, sexual attitude, sexual knowledge, optimistic bias of venereal disease*

1. Introduction

Open values and culture flows, the development of information media have brought the consciousness and attitudes, changes in the behavior of sex in our society [1] As also TV and unfiltered information transmitted through a variety of information media are more often exposed, it can have a big impact on changing attitude and behavior of sex [2]. In addition university students are have more opportunity to meet opposite sex at universities providing allow and free atmosphere. More than half of university students with sexual experience do not prevention of sexually transmitted diseases or pregnancy prevention [3]. 10% of college students with sexual experience may have experienced sexually transmitted infections [4], and pregnancy experience was 17.7%, of which 88.5% was reported to have an artificial abortion [5]. Sexually transmitted diseases and artificial abortion increase fertility problems, it can lead to permanent disability for newborns [6]. At this time if they are not have value system of sexual knowledge, sexual attitude, and optimistic bias of venereal disease that can put them at risk for undesirable results such as unwanted pregnancy, venereal disease and sexual guilt. Thus, the present study presents the results of a survey conducted to identify sexual attitude, sexual knowledge, optimistic bias of venereal disease and contraceptive practice and to measure the effects of these factors on contraceptive practice among university students.

2. Materials and Methods

2.1. Participants

The participants were assured of anonymity and confidentiality. Informed consent was obtained from all the participants. The sample size needed for t-test was calculated using power analysis. We obtained 138 as the proper sample size, for a significance level (α) of 0.05, a power ($1-\beta$) of 0.80, and a medium effect size (f) of 0.05. Considering a drop-out rate of 10%, we aimed to recruit 152 people in group. Of the 152 college students with experience of sexual intercourse, four had incomplete survey, leaving 148 students.

2.2. Measurements

A scale for the attitude to development phenomena was developed by Choi and Ha. [7]. It consists of 40 items in 3-point Likert scale (1 =correct, 2=unknown, 3=not correct). Higher score of this scale indicated higher sexual knowledge. Cronbach's alpha was 0.841 in this study.

A scale for the social support was developed by Hendrick & Hendrick [8], and Choi [9] modified this scale for measuring the sexual attitude. It consists of 18 items in 5-point Likert scale (1 = definitely disagree, 2= disagree, 3=neutral, 4 = agree, 5 = definitely agree). Higher score of this scale indicated better sexual attitude. Cronbach's alpha was 0.88 in this study.

A scale for the optimistic bias of venereal disease was developed by Weinstein [10]. It consists of 2 items in 7-point Likert scale (1= definitely disagree, 2= almost agree, 3=disagree, 4=neutral, 5=agree, 6=almost agree, 7= definitely agree). Higher score of this scale indicated better optimistic bias of venereal disease. Cronbach's alpha was 0.86 in this study.

A scale for the contraceptive practice was developed by Kim [11]. It consists of 4 items in 5-point Likert scale (1 = definitely disagree, 2= disagree, 3=neutral, 4 = agree, 5 = definitely agree). Higher score of this scale indicated better contraceptive practice. Cronbach's alpha was 0.84 in this study.

2.3. Data Collection & Analysis

Data was collected using a structured questionnaire consisting of general characteristics, sexual knowledge, sexual attitude, optimistic bias of venereal disease, and contraceptive practice. The data was analyzed with static analysis, t-test, and Pearson correlation coefficient.

3. Results

3.1. General Characteristics of Subjects

Most of sample was male 123 (72.8%), and 97 (65.5%) of them lived with parents. More than half (75.0%) students had use to Artificial contraception, and 17 (11.5%) students had experience to Natural contraception, and 20 (13.5%) use to both methods. Most of them (99.3%) could not experience the sexual transmitted disease. Most of them (99.6%) could not receive the cervical cancer vaccination.

Table 1. General Characteristics of Subjects (N=148)

Characteristics		Mean ± SD or n(%)
Gender	Male	123(72.8)
	Female	25(14.8)
Age		22.81±1.82
Academic year	Grade 1	7(4.7)
	Grade 2	39(26.4)
	Grade 3	67(45.3)
	Grade 4	35(23.6)
Academic achievement	Top class	30(20.3)
	Middle class	97(65.5)
	Low class	21(14.2)
Religion	Yes	54(36.5)
	No	94(63.5)
Relationship	Yes	72(48.6)
	No	76(51.4)
Residence	Parents	97(65.5)
	Relative	4(2.7)
	Friend	10(6.8)
	Single	37(25.0)
Past STDs	Yes	1(0.7)
	No	147(99.3)
Cervical Cancer Vaccination	Yes	5(3.4)
	No	143(96.6)
Frequency of Sex	Less than once a month	65(43.9)
	2 or 3 times a month	63(42.6)
	2 or 3 times a week	15(10.1)
	More than 4 times a week	5(3.4)
Sex Partner	1 Person	113(76.4)
	2 or 3	30(20.3)
	More than 4	5(3.4)
Contraception	None	13(8.8)
	Sometimes	17(11.5)
	Often	12(8.1)
	Almost	29(19.6)
	Always	77(52.0)
Contraceptive Method	Natural contraception	17(11.5)
	Artificial contraception	111(75.0)
	All	20(13.5)

3.2. Levels of Sexual Knowledge, Sexual Attitude, Optimistic Bias of Venereal Disease, and Contraceptive Practice

The mean score of sexual knowledge of university students was $0.62 \pm .16$. The mean score of sexual attitude (Permissive, Pleasurable, Responsibility), was $3.03 \pm .77$, $3.14 \pm .65$ and, $4.17 \pm .82$ respectively. The mean score of Optimistic bias of venereal diseases and Contraceptive practice of college students was $4.16 \pm .90$ and $3.53 \pm .94$ respectively <Table 2>.

Table 2. Levels of Sexual Knowledge, Sexual Attitude, Optimistic Bias of Venereal Disease, and Contraceptive Practice (N=148)

Variables		Range	Mean±SD
Sexual knowledge		0-1	0.62±.16
Sexual attitude	Permissive	1-5	3.03±.77
	Pleasurable	1-5	3.14±.65
	Responsibility	1-5	4.17±.82
Optimistic bias of venereal diseases		1-7	4.16±.90
Contraceptive practice		1-5	3.53±.94

3.3. Contraceptive Practice According to General Characteristics

The fetal attachment varied with a statistical significance according to the use of contraception and contraceptive method.<Table 3>.

3.4. Correlation between Sexual Knowledge, Sexual Attitude, Optimistic Bias of Venereal Disease, and Contraceptive Practice

This finding indicates that higher scores on sexual knowledge are related to higher Pleasurable and Responsibility sexual attitude ($r=.220$, $p=.007$ and $r=.218$, $p=.008$), and higher scores on contraceptive practice ($r=.367$, $p<.001$). Permissive sexual attitude of college students had a positive correlation with Pleasurable sexual attitude ($r=.750$, $p<.001$). Responsibility sexual attitude had a positive correlation with contraceptive practice ($r=.187$, $p=.023$). <Table 4>.

3.5. Regression Analysis of Factors on Contraceptive Practice

In this study the total explanatory power of these factors on contraceptive practice was shown to be 15.6%. Additionally pleasurable sexual attitude ($p=.1$) was shown to exert a significant influence on contraceptive practice, more increase sexual knowledge ($\beta=.301$), more increase pleasurable sexual attitude ($\beta=.257$), it was shown to have the greatest influence on contraceptive practice. The explanatory power, statistically significant, is 15.6% ($\text{Adj } R^2=.156$) <Table 5>

Table 3. Contraceptive Practice According to General Characteristics (N=148)

Characteristics		Contraceptive Practice	
		Mean±SD	t/F(p)
Gender	Male	3.49±.95	-1.204 (.236)
	Female	3.72±.87	
Grade	1	3.14±.79	1.774 (.155)
	2	3.30±.98	
	3	3.59±.90	
	4	3.72±.97	
Academic achievement	Top	3.84±1.02	2.176 (.117)
	Middle	3.44±.92	
	Low	3.48±.98	
Religion	Yes	3.48±.89	-.487 (.627)
	No	3.55±.97	
Dating experience (present)	Yes	3.47±1.05	-.706 (.481)
	No	3.58±.82	

Residence	Parents	3.61±.93	
	Relative	3.75±1.34	1.125
	Friend	3.43±.58	(.341)
	Single	3.30±1.00	
Past sexual transmitted disease history	Yes	4.00	.505
	No	3.52±.94	(.614)
Cervical Cancer Vaccination	Yes	3.50±.953	-.117
	No	3.53±.95	(.911)
Frequency of Sex	Less than once a month	3.39	
	2 or 3 times month	3.62	2.517
	2 or 3 times a week	3.93	(.061)
	More than 4 times a week	2.85	
Sex Partner	1 person	3.51±.97	
	2 or 3	3.68±.70	1.073
	More than 4	3.05±1.48	(.345)
Contraception	None	2.52±1.08	
	Sometimes	2.97±.76	9.202
	Often	3.27±.76	(<.001)
	Almost	3.59±.94	a<d, e
	Always	3.83±.94	b<e
Contraception Method	Natural contraception	2.85±1.09	5.337
	Artificial contraception	3.63±.90	(.006)
	All	3.51±.80	a<b

Table 4. Correlation between Sexual Knowledge, Sexual Attitude, Optimistic Bias of Venereal Disease, and Contraceptive Practice (N=148)

	Sexual attitude			Optimistic bias of venereal disease	Contraceptive practice
	Permissive	Pleasurable	Responsibility		
Sexual knowledge	.100 (.227)	.220 (.007)	.218 (.008)	.031 (.710)	.367 (<.001)
Sexual attitude	Permissive sexual attitude	.750 (<.001)	.007 (.934)	-.084 (.312)	.115 (.165)
	Pleasurable sexual attitude		.133 (.107)	-.019 (.816)	.255 (.002)
	Responsibility sexual attitude			.139 (.093)	.187 (.023)
Optimistic bias of venereal disease					.087 (.291)

Table 5. Regression Analysis of Factors on Contraceptive Practice

Variables	B	β	t	Constant	Adj R ²	F
Sexual Knowledge	1.812	.301	3.791***	.955	.156	6.422***
Permissive Sexual Attitude	-.126	-.103	-.888			
Pleasurable Sexual Attitude	.370	.257	2.163*			
Responsibility Sexual Attitude	.090	.079	.995			
Optimistic Bias of Venereal Disease	.066	.064	.827			

4. Discussion

Many studies have been conducted all over the world to study the knowledge, attitude and practice of contraception in adolescent and young adults.

This study attempts to identify sexual attitude, sexual knowledge, optimistic bias of venereal disease and contraceptive practice and to identify correlations between these variables among university students.

This study finds that there was a statistically significant positive correlation between sexual knowledge and contraceptive practice. ($r = .367$, $p < .001$). In the present study shows that sometimes contraception 11.5% often contraception 8.1% almost contraception 19.6% and always contraception 52.0%.

In India, one study has been carried out in Delhi in the past. Aggarwal O et al. in Delhi [12] conducted the survey in 500 undergraduate students of medical colleges of Delhi and reported the knowledge regarding, contraception to be 83.5%. This study was supported indirectly. Here we have concern about students' fertility arises from its health implications. Also there is a need to motivate the university students for effective and appropriate use of contraceptives. Therefore, there is need for initiatives that address contraception/family planning involving this population with the purpose of providing counseling to university students towards a healthy sexuality with fewer risks.

In this study the total explanatory power of these factors on contraceptive practice was shown to be 15.6%. Additionally pleasurable sexual attitude ($p = .1$) was shown to exert a significant influence on contraceptive practice, more increase sexual knowledge ($\beta = .301$), more increase pleasurable sexual attitude ($\beta = .257$), it was shown to have the greatest influence on contraceptive practice. The explanatory power, statistically significant, is 15.6% ($\text{Adj } R^2 = .156$). This result is supported to previous findings, such as Stéfani de Salles Mende et al. They reported that although adolescents present some knowledge and adequate attitudes about contraception, there is still the need for prevention and sexual orientation [13]. However, since this research only looked at a small sample of university students it will be difficult to extend the results of this study to other analyses, so follow-up studies must be carried out.

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