Difference of Knowledge and Attitude about Human Papillomavirus in Male and Female College Students

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Purpose: This study was done to identify the gender difference of knowledge and attitude about Human Papillomavirus(HPV) in college students.

Methods : A cross-sectional survey design with a convenient sampling was used. The subjects were 215 college students. Data collection was done by self-reporting method from September 10 to 22, 2012. The reliability of the instruments were from .81 to .83. Descriptive statistics were used to analyze the characteristics of the sample and knowledge and attitude about HPV. The independent t-test and x^2 test were performed using SPSS 18.0 to confirm gender differences.

Results : The participants in this study were 100 male 115 female students. 7.2% of the participants has family history of cancer of cervix, ovarian cancer and uterine cancer. The percentage of correct answer of knowledge items toward the HPV were 4.2% to 42.8%. 84.7% of the participants were heard about cancer of cervix, 31.6% of the participants were heard about HPV, and 68.4% were heard about HPV vaccine. There was a significant differences in the correct answer rate about knowledge items toward the HPV between the gender. Female students were more correct answers than male students about "HPV can be prevented with vaccine"(x^2=5.90, p=.019), but male students were more correct answers than female student about "low risk virus make dysplasia of cervix area"(x^2 =.01, p 〈.001) and "for man, HPV can occur genital cancer, so preventive exam is necessary"(x^2=7.26, p=.013). In attitude, of HPV vaccine, male was higher attitude score than female about "I am afraid of side effects of HPV vaccine"(t=2.704, p=.007). But female was higher attitude score than male about "I don't need HPV vaccine"(t=-1.984, p=.049), "I am not interest in HPV vaccine"(t=-2.339, p=.020), "HPV vaccination may lead to unsafe sex"(t=-2.304, p=.022).

Conclusion: Subjects's knowledge about HPV were low level. College students were more aware of the HPV vaccine rather than HPV. The significantly differences between the gender were due to differences in gender characteristics.

Table 1. Characteristics of subjects

(N=215)

Characteristics	Category	Total n(%)	Male (n=100) n(%)	Female (n=115) n(%)	x^2(*P*)
DemographicCharacteristics					
Age(yrs)	20-24	185(86.0)	73(73.0)	112(97.4)	26.50(〈.001)
M±SD=22.2±1.93	25-29	30(14.0)	27(27.0)	3(2.6)	
Cervix cancer family history	Yes	16(7.4)	7(7.0)	9(7.8)	0.05(.818)
	No or Unknown	199(92.6)	93(93.0)	106(92.2)	
HPV related characteristics					
Heard of cervix cancer	Yes	182(84.7)	72(72.0)	110(95.7)	23.03(〈.001)
Heard of HPV	Yes	68(31.6)	25(25.0)	43(37.3)	3.79(.057)
Heard of HPV vaccine	Yes	147(68.4)	43(43.0)	104(90.4)	55.65(〈.001)
Learned about sex or cervix cancer	Yes	88(40.9)	29(29.0)	59(51.3)	11.0(.001)
Have intention educationof sex or cervix cancer	Yes	140(65.1)	53(53.0)	87(75.7)	12.08(.001)
Sex related characteristics					
Experience of sexual intercourse	Yes	72(33.5)	56(56.0)	16(14.2)	45.74(〈.001)
Know about method of contraception	Yes	187(87.0)	85(85.0)	102(88.7)	0.64(.543)

* HPV=Human Papillomavirus

Table 2. Correct answer rate about knowledge toward the Human Papillomavirus

(N=215)

Contents	Total Correct n(%) M±SD	Male (n=100) Correct n(%) M±SD	Female (n=115) Correct n(%) M±SD	x^2 or t (*P*)
HPV can be preventedwith vaccine(T)	92(42.8)	34(34)	58(50.4)	5.90(.019)
HPV is related to develop the cervix cancer (T)	88(40.9)	42(42)	46(40)	0.088(.783)
HPV is one of sexually transmittedinfections(T)	78(36.3)	35(35)	43(37.4)	0.13(.777)
Once HPV develops, it could not be gone unless treatment (F)	56(26.0)	24(24)	32(27.8)	0.40(.538)
Incubationperiod are several months to more than year (T)	52(24.2)	25(25)	27(23.5)	0.06(.873)
HPV is almost asymptomatic(T)	51(23.7)	20(20)	31(27)	1.43(.263)
HPV is a disease related to sexual contact(T)	49(22.8)	25(25)	24(20.9)	0.51(.516)
HPV can infect in the areas of oral, respiratory tract, & eyes (T)	47(21.9)	27(27)	20(17.4)	2.89(.100)
HPV occurs mostly during the middle age, menopause(F)	34(15.8)	16(16)	18(15.7)	0.005(1.000)
In case of HPV infectedpregnantwomen, Cesarean section will prevent neonatal infection(F)	32(14.9)	13(13)	19(16.5)	0.52(.566)
If immunity was strong, HPV could be gone gradually (T)	30(14.0)	10(10)	20(17.4)	2.43(.167)
Low risk cirus does not occur the cervix cancer (T)	29(13.5)	16(16)	13(11.3)	1.01(.326)
Condom can prevent the infectionof HPV (F)	25(11.6)	9(9)	16(14)	1.25(.293)
Low risk virus make dysplasiaof cervix area (F)	21(9.8)	10(10)	11(9.6)	0.01(〈.001)
High risk virus make wart around the genitalia(F)	20(9.3)	11(11)	9(7.8)	0.64(.485)
Frequent warts occurrencearound the vulva, there is higher possibilityof cervical cancer (F)	18(8.4)	8(8)	10(8.7)	0.03(1.000)
For man, HPV can occur genital cancer, so preventive exam is necessary(F)	15(7.0)	12(12)	3(2.6)	7.26(.013)
HPV can be detectedon cervical cytologyPap exam (F)	11(5.1)	5(5)	6(5.2)	0.005(1.000)
Present, HPV can be treated with drug, surgery (F)	10(4.7)	4(4)	6(5.2)	0.17(.754)
Sexually active women should take a HPV exam by year (F)	9(4.2)	5(5)	4(3.5)	0.30(.736)
Total correctanswer scorcs	3.57± 3.67	3.51± 3.60	3.62± 3.75	-0.213 (.831)

* HPV=Human Papillomavirus,T=true, F=false

Table 3. Attitudes toward the Human Papillomavirus vaccine

(N=215)

Contents	Total M±SD	Male (n=100) M±SD	Female (n=115) M±SD	t(*P*)
Safety concern	3.10±.83	3.22±.89	3.00±.77	1.861(.064)
1. I am afraid of side effects of HPV vaccine.*	3.12±.94	3.30±1.00	2.96±.86	2.704(.007)
2. I think HPV vaccine has not been widely tested.*	3.13±.91	3.19±.95	3.09±.87	0.828(.409)
3. I am concerned about negative long term effects.*	3.06±.98	3.16±1.03	2.97±.93	1.389(.166)
Perceived needs	3.12±.96	2.98±.95	3.23±.96	-1.956(.052)
4 I don't need HPV vaccination.*	3.21±1.07	3.06±1.10	3.35±1.03	-1.984(.049)
5. I am not interestedin HPV vaccine.*	3.03±1.08	2.85±1.02	3.19±1.11	-2.339(.020)
6. HPV vaccinationis a hassle.*	3.10±1.13	3.03±1.11	3.17±1.14	-0.877(.381)
Importanceof prevention	3.49±.83	3.49±.84	3.48±.81	0.071(.943)
7. HPV vaccinationis important for cervical cancer prevention.	3.60±.89	3.60±.91	3.60±.88	0.000(1.000)
8. HPV vaccination is important for preventionof genital warts.	3.38±.92	3.39±.97	3.37±.87	0.128(.898)
Risky sexual behavior	3.47±.90	3.34±.90	3.57±.88	-1.908(.058)
9. HPV vaccinationmay lead to unsafe sex (ie, reduced condom use).*	3.36±1.01	3.19±1.02	3.50±.98	-2.304(.022)
10. HPV vaccine may encourage promiscuity.	3.53±.99	3.44±1.00	3.62±.99	-1.307(.193)
11. HPV vaccination would promote early initiationof sexual activity	3.52±1.02	3.41±1.01	3.62±1.03	-1.488(.138)
Total	3.27±.59	3.23±.60	3.31±.57	-0.922(.358)

* Items were reverse-coded.

* HPV=Human Papillomavirus

Table 4. Difference of Human Papillomavirus knowledge and vaccine attitude scores by characteristics

(N=215)

HPV related characteristics		n	Knowledge M±SD	t(*p*)	Attitude M±SD	t(*p*)
Heard of cervix cancer	Yes	182	3.71±3.57	1.37(.169)	36.51±6.43	2.45(.015)
	No	33	2.76±4.15		33.5±6.10	
Heard of HPV	Yes	68	5.93±3.36	7.10(〈.001)	37.59±6.57	2.39(.018)
	No	147	2.48±3.28		35.35±6.30	
Heard of HPV vaccine	Yes	147	3.58±3.60	1.66(.097)	37.29±6.37	4.29(〈.001)
	No	68	2.96±3.77		33.38±5.84	
Learned about sex or cervix cancer education	Yes	88	5.14±3.74	5.41(〈.001)	37.25±6.97	2.27(.024)
	No	127	2.48±3.21		35.23±5.97	
Have intention education sex or cervix cancer	Yes	140	4.14±3.87	3.20(.002)	36.73±6.81	2.10(.037)
	No	75	2.49±3.0		34.80±3.87	

* HPV=Human Papillomavirus

Key Words : College Student, Gender, Human Papillomavirus, Human Papillomavirus Vaccine