

# Development of the Human papillomavirus infection prevention program

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# Contents

## Effects of a Gender-Based HPV Prevention Program on Factors Related to HPV Prevention Among Male and Female Korean University Students



# Introduction

## HPV education

The importance of including both men and women in HPV education and prevention efforts has been emphasized, within the context that they are **equally** responsible for HPV transmission

*(Wong 2009, Kim 2011)*

# Introduction

## HPV infection among sexually active men

The incidence of cervical cancers has shown a decreasing trend, but **the incidence of anal and oropharyngeal cancers has been increasing** in the USA, and currently no public screening programs are applied for this

*(Gillison et al, 2008)*

# Introduction

## HPV infection among sexually active men

The prevalence of **anal HPV infection** among sexually active men was 12.2–47.2%, with no age-group predilection. *(Nyitray et al, 2011)*

The cumulative incidence of **new infection of any genital HPV** among the sexually active male university students was 62.4% over 24 months, which is **higher** than that reported for similar cohorts of young women. *(Partridge et al, 2007)*

# Introduction

## Gender differences and Education

Gender differences were reported for knowledge and attitudes related to HPV infection, and it was concluded that those differences should be managed via a tailored HPV educational program for university students. *(Kim, 2011)*

➔ HPV infection is rife among university students, regardless of their gender, and that it is critical to **include men** in any HPV-prevention

# Introduction

## HPV vaccination

The main focus of attempts to prevent HPV infection has been on **HPV vaccination**.

According to a prospective study involving in multiple Western countries, men appear to have a stable risk for acquiring new HPV infection throughout their life; it was therefore **suggested it would be cost effective to implement HPV vaccination to men worldwide**. *(Giuliano et al,*

2011)

# Introduction

## HPV vaccination

The current HPV vaccination rate of young Korean women is **very low**, at less than 10%.

*(Kang & Moneyham 2010)*

➔ We cannot rely solely on HPV vaccination to prevent the spread of HPV infection among **both young men and women** in Korea.

# Introduction

## Aim of this study

### 1. To identify gender differences

- HPV knowledge
- Awareness of sexual rights
- Perception of gender equality
- Intention to prevent HPV

# Introduction

## Aim of this study

2. To Examine the effects of a gender- based HPV- prevention educational program on these factors.

### Women

- HPV knowledge
- Awareness of sexual rights
- Perception of gender equality
- Intention to prevent HPV

### Men

- HPV knowledge
- Awareness of sexual rights
- Perception of gender equality
- Intention to prevent HPV

Gender- based HPV- prevention  
educational program

# Background

The contraction of HPV infection in males and their female partners is influenced by their sexual behaviors, and therefore an understanding of HPV infection itself in men is believed to be an essential component of HPV prevention.

*(Giuliano et al, 2011)*

# Background

To be effective among university students, HPV prevention strategies should focus not only on HPV vaccination programs for girls and young women, but should also incorporate other measures for HPV prevention in the daily life, and **should include men.**

*(Kim, 2011)*

# Background

Awareness of sexual rights and perception of gender equality are considered necessary in the gender-based approaches to STI prevention.

*(White et al. 2005, Kim et al. 2010)*

→ The uniqueness of the HPV-prevention educational program implemented in this study is basically linked to concepts of sexual rights and gender equality.

# Background

## Sexual rights

Sexual health will not be achieved or maintained without sexual rights for all humans.

*(World Association for Sexual Health 2008)*

Awareness of sexual rights was considered to be a starting point or fundamental content of the sexuality education should be prepared for responsible in themselves or interpersonal relationships.

*(Levesque 2000, Kim et al. 2010)*



# Background

## Gender equality

Gender equality refers to the rights of men and women to nondiscrimination, and is considered a relational process. *(Subrahmanian 2005)*

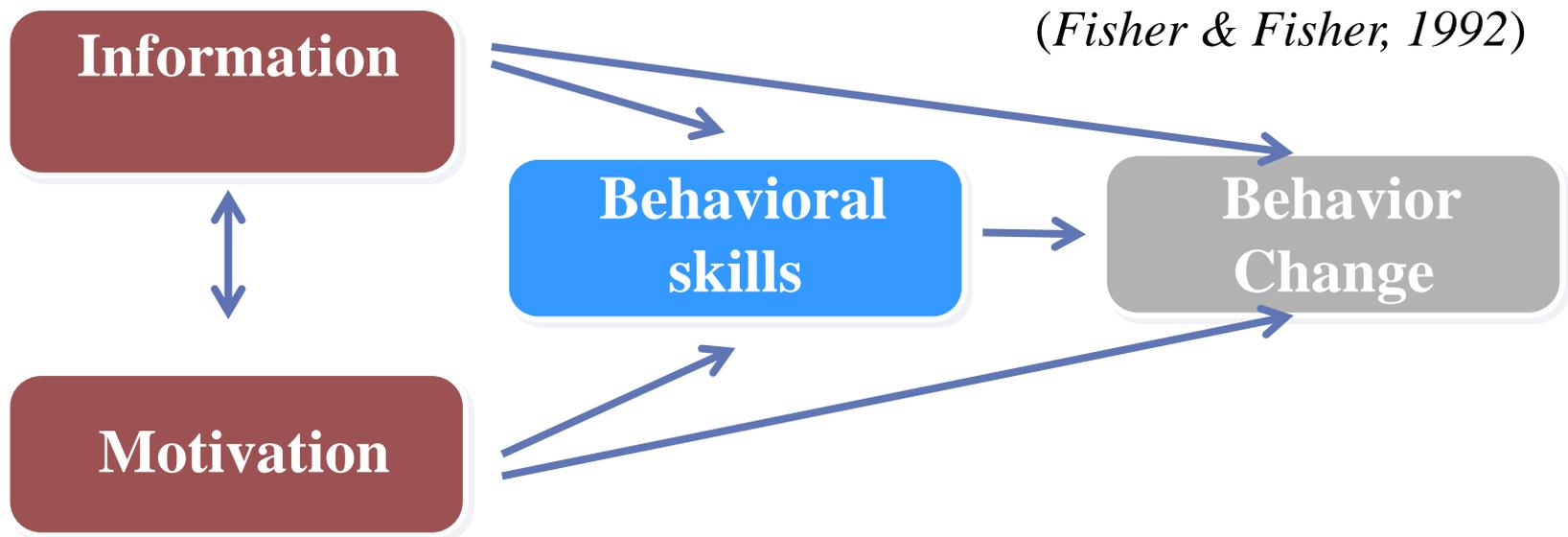
Gender inequality influences the sexual attitudes, practice, and health of both men and women, and therefore the issues of gender inequality should be reflected in the program contents in order to increase the effectiveness of sexuality education.

*(Rogow & Haberland 2005)*

# Background

## Theoretical framework

### Information-Motivation-Behavioral skills (IMB) model



# Background

## Theoretical framework

Applying the IMB model to the HPV prevention program in the present study.

### Information

and sexual rights  
(HPV facts, specific prevention methods,  
awareness of sexual rights)

### Motivation

to affect changes in HPV-prone or risky behaviors  
(awareness of sexual rights and perception of  
gender equality)

### Behavioral skills

in performing specific HPV-preventive behaviors,  
which could be measured via behavioral intentions  
as a proxy of the real behavior

# Background

## Hypotheses in this study

### Hypothesis 1

Gender differences between university students will reduce with increasing knowledge of HPV, awareness of sexual rights and perception of gender equality, and intention to prevent HPV infection after completion of the gender-based HPV prevention educational program.

# Background

## Hypotheses in this study

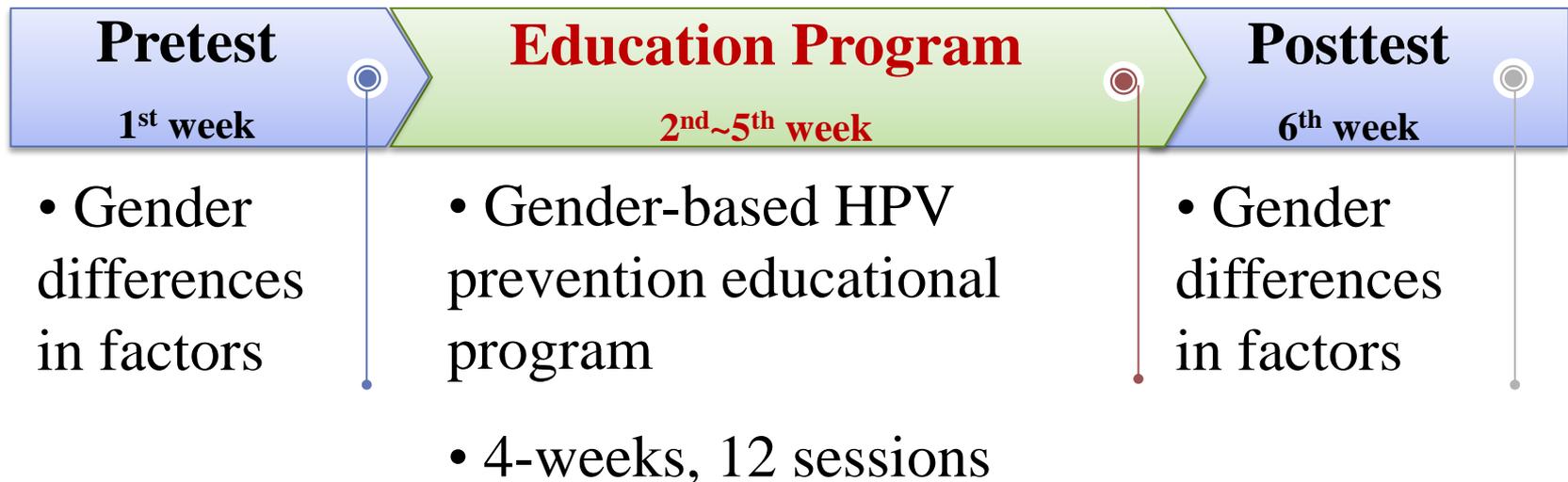
### Hypothesis II

Knowledge of HPV, awareness of sexual rights and perception of gender equality, and intention to prevent HPV **will be enhanced in both male and female university students** after they complete the gender-based HPV prevention educational program.

# Methods

## Research design

A quasi-experimental design



# Methods

## Sample

### Sampling

1. Via the school homepage and offline advertisements
2. September 27, 2010 ~ October 8, 2010

### Inclusion criteria

1. Willingness to participate in this study.
2. Never having been married.
3. Not majoring in nursing, medicine, or public health.

### Exclusion criteria

Had commenced or completed an HPV vaccination program

# Methods

## Sample

**66 Students  
Recruited**



**7 were  
excluded**



**59 Students  
Participated**

62 Subjects was necessary  
: Sufficient Power 0.80,  $p < 0.05$ , large effect size  
of 0.79(G power 3.12) + 20% missing subjects

3 female students had been vaccinated for HPV,  
2 male students were not able to attend the  
entire educational  
2 female students did not attend the introductory  
session of the study

31 men, 28 women

# Methods

## Gender-based HPV prevention educational program

	<b>Contents of the HPV prevention educational intervention</b>	<b>Methodologies</b>
Session 1	Overview of the program and pretest	
Session 2	Introduction among participants and the research team	Self introduction
Session 3	General HPV information: prevalence, pathology, types of HPV, HPV vaccines	Lecture
Session 4	1. Gender-specific HPV infection 2. Genital warts as a common STI among both genders	Lecture
Session 5	Common specific approaches to prevent HPV for both genders	Lecture
Session 6	Sexual autonomy and sexual rights for both genders	Lecture
Session 7	Sexism and prejudice regarding sexuality in Korean society	Discussion
Session 8	Explore the experiences and feelings of gender inequality in their sexual health and interpersonal relationships	Discussion
Session 9	Sexually assertive communication skills, condom use	Discussion&practice
Session 10	Breaking prejudices about sexuality, STIs, and HPV	Discussion
Session 11	Summary of healthy behaviors to prevent HPV for both genders	Lecture
Session 12	Posttest and question-and-answer session	Discussion&evaluati

# Methods

## Measures : Knowledge of HPV

(5 items)  
“HPV can be asymptomatic”

“HPV can disappear without treatment”

“HPV vaccine prevents HPV infection”

“Condoms prevent HPV”

“HPV can affect men”

- A score of 1 was assigned to each item for a correct answer
- A score of 0 was assigned for an incorrect or “don’t know” answer
- higher scores indicate better knowledge regarding HPV.
- Cronbach’s  $\alpha$  values of 0.88

# Methods

## Measures : Awareness of sexual rights (17items)

- **4-point scale** ranging from 1 (“not at all important”) to 4 (“very important”)
- The contents of the instrument **included five factors related to sexual rights** (sexuality education, free from prejudice and bias aberration, sexual satisfaction, safe and equal sexuality, and sexual autonomy)
- Higher scores indicate a better understanding of sexual rights.
- Cronbach’s  $\alpha$  values of 0.80

# Methods

## Measures : Perception of gender equality (5items)

- The perception of gender equality was assessed by five items on the sexuality subscale of the Korean Gender Egalitarianism Scale (KGES) developed by the Korean Women's Development Institute (1999).
- **5-point scale** ranging from 1 (“very much agree”) to 5 (“never agree”)
- higher scores indicated better perceptions of gender equality.
- Cronbach's  $\alpha$  values of 0.72

# Methods

## Measures : Intention to prevent HPV infection

(6 items)  
5-point scale ranging from 1 (“not at all”) to 5 (“very much”)

1. Intention to use a condom regularly
  2. Intention to reduce the number of sexual partners
  3. Intention to abstain from sex until marriage
  4. Intention to be vaccinated for HPV
  5. Intention to regularly undergo a Pap test or pelvic examination even before marriage (female students only), or intention to recommend a regular Pap test or pelvic examination to sexual partner (male students only)
  6. Intention to stop smoking (or to continue not smoking)
- Cronbach’s  $\alpha$  value of 0.80.

# Methods

## Ethical considerations

- The research protocol was approved by the University Hospital Institutional Review Board.
- The participants were given specific information about the research program, and their right to stop their participation at any time.
- The participants signed an informed consent form agreeing to their participation in this study, and they were assured that the data they provided would be confidential and anonymous.
- The participants received the financial incentive.

# Methods

## Data analysis

- All variables were analyzed using frequencies, means, proportions, standard deviations, and percentages.
- **At the pretest**, the homogeneity test of sociodemographic factors and the general HPV awareness between male and female students were analyzed using the *t*,  $\chi^2$ , and Fisher's exact test
- Gender differences in the measurement variables were analyzed using the **Mann-Whitney *U* test**.

# Methods

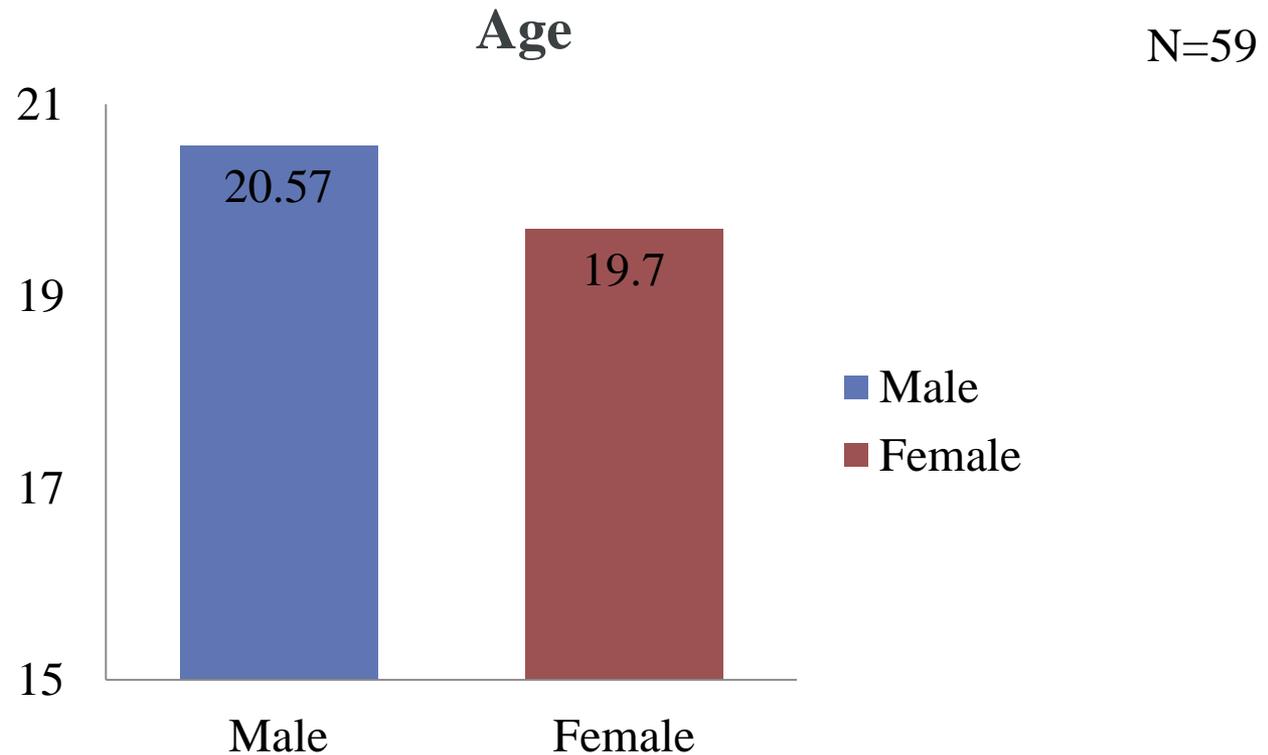
## Data analysis

### At posttest

- Gender differences in the measurement variables between groups were analyzed using the **Wilcoxon signed-ranks test with Bonferroni correction**. The effects of the HPV prevention program in each group were also analyzed using the **Wilcoxon signed-ranks test**. (version 18, SPSS, Chicago, IL, USA).

# Results

## Gender comparisons of the subjects' general characteristics

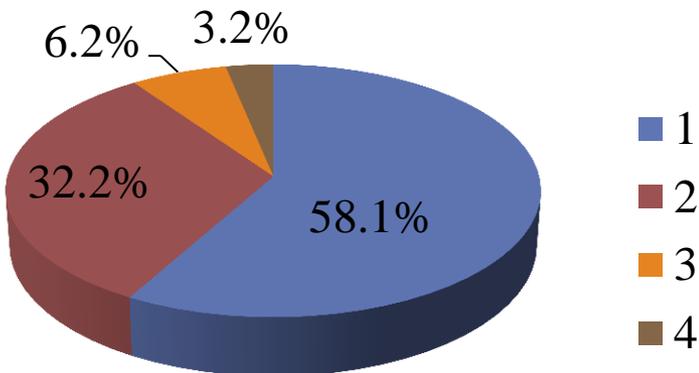


# Results

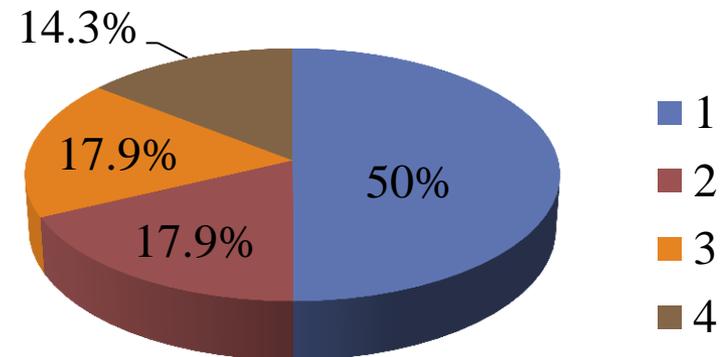
## Gender comparisons of the subjects' general characteristics

### Grade

N=59



**Male**



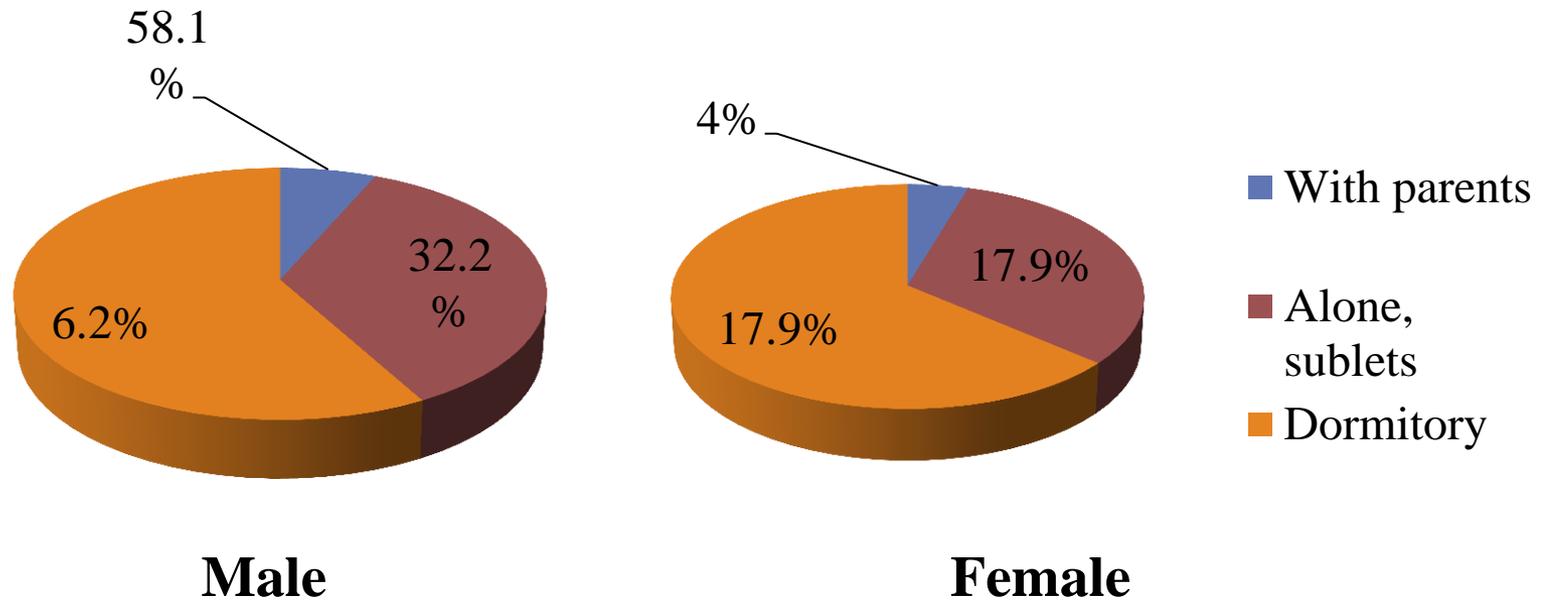
**Female**

# Results

## Gender comparisons of the subjects' general characteristics

### Living condition

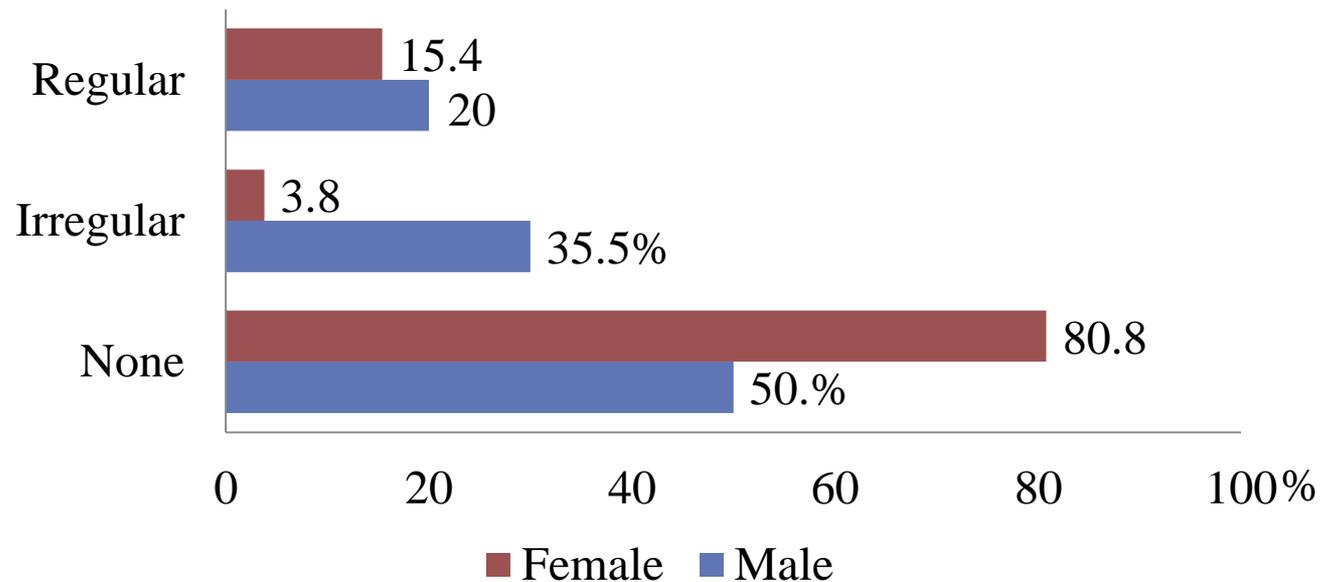
N=59



# Results

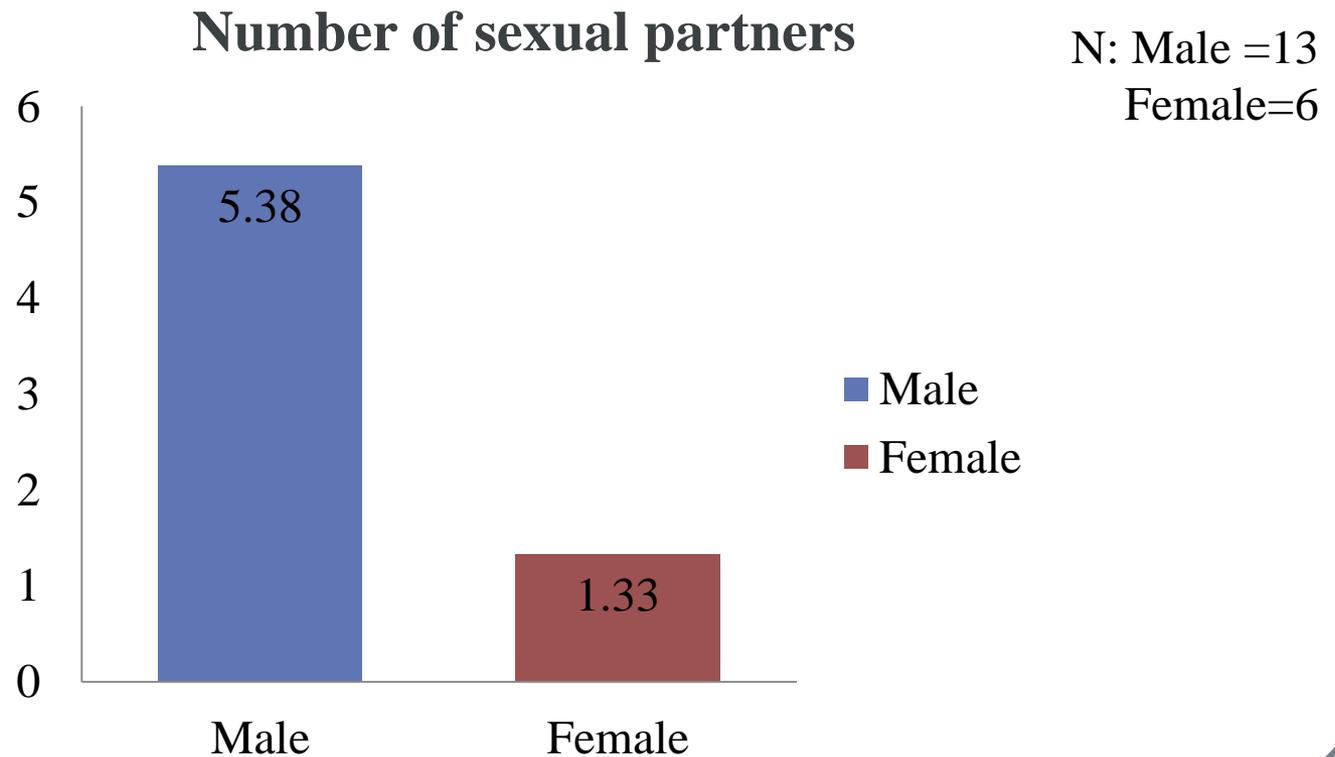
## Gender comparisons of the subjects' general characteristics

**Sexual experience** (*Significant difference,  $p=0.023$* ) N=56



# Results

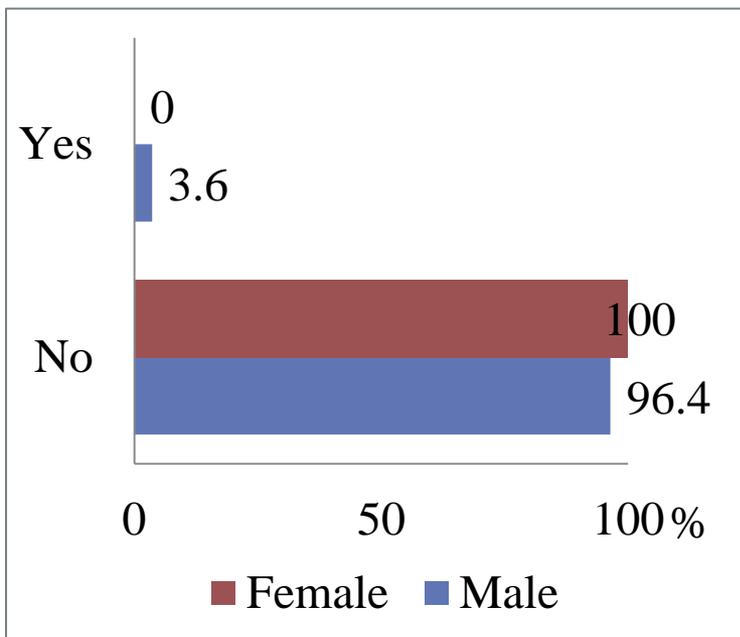
## Gender comparisons of the subjects' general characteristics



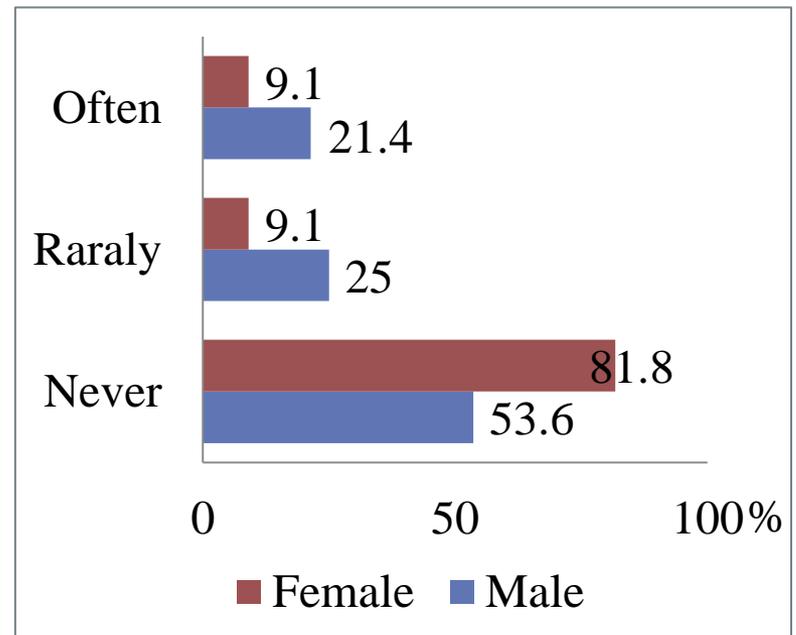
# Results

## Gender comparisons of the subjects' general characteristics

**STI examination** N=52



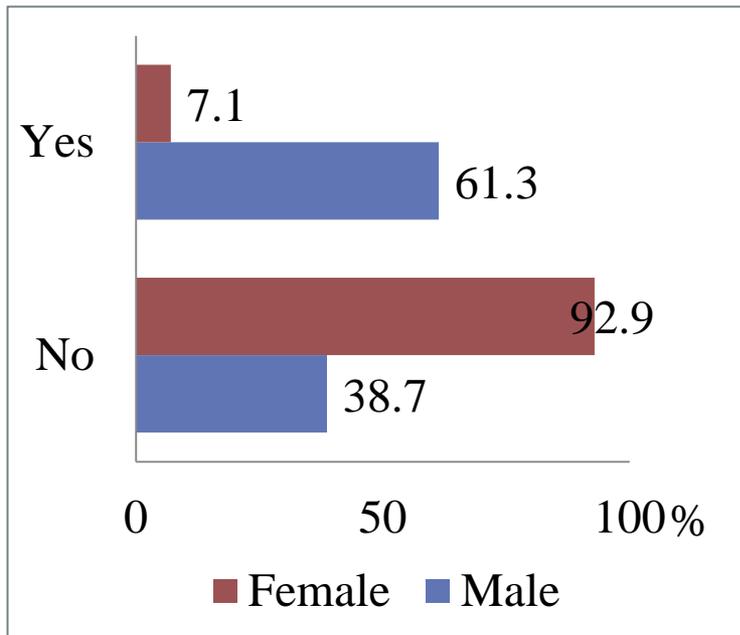
**Condom use** N=50



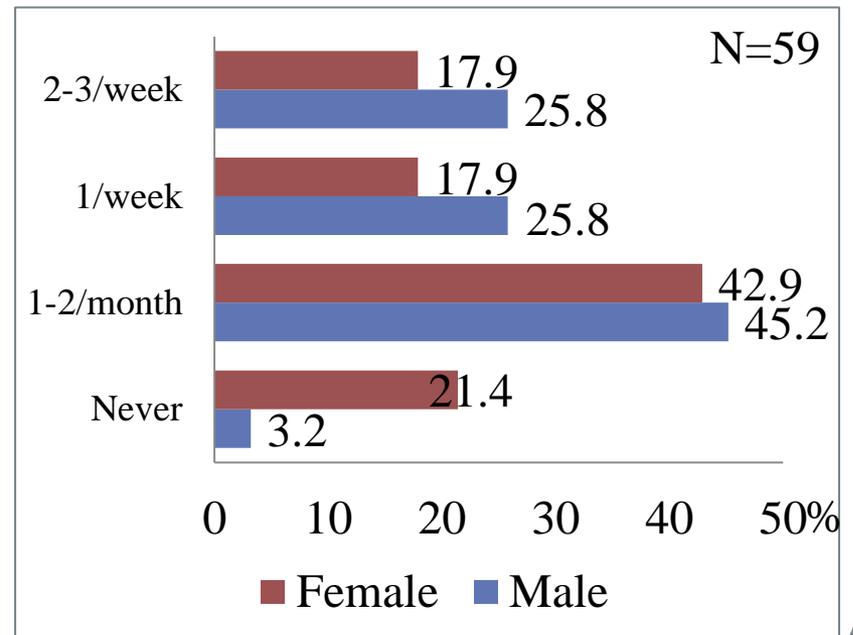
# Results

## Gender comparisons of the subjects' general characteristics

### Smoking experience N=59



### Frequency of alcohol consumption N=59



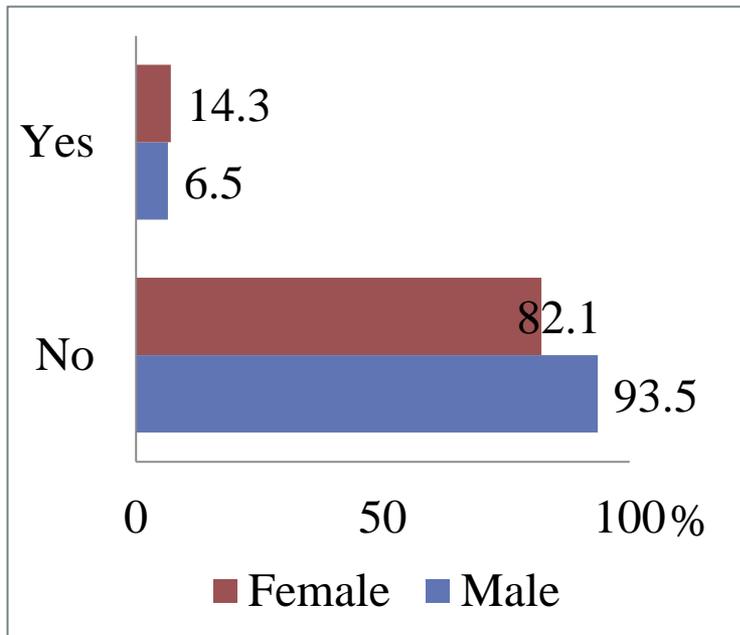
*(Significant difference,  $p < 0.001$ )*

# Results

## Gender comparisons of the subjects' general characteristics

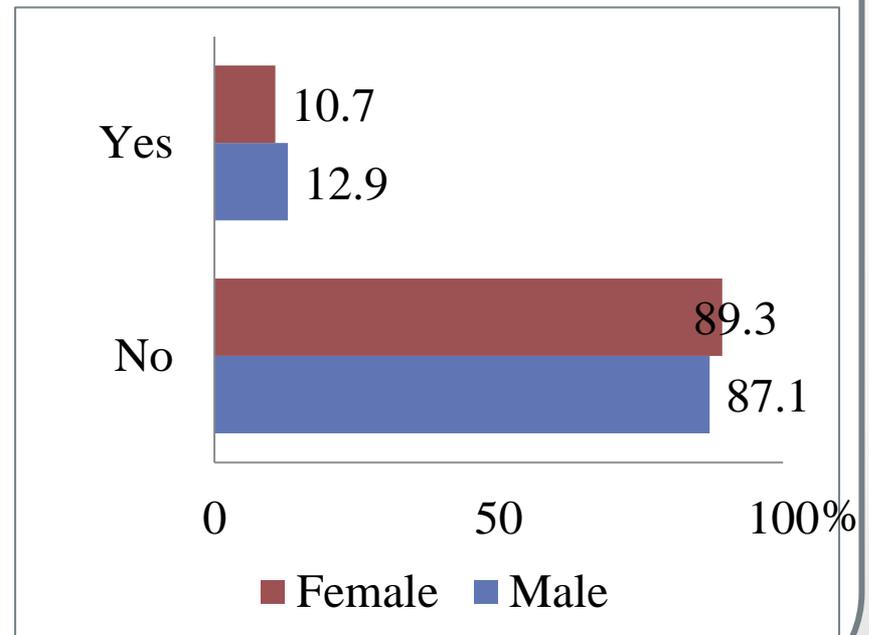
### Heard of HPV

N=59



### Heard of genital warts

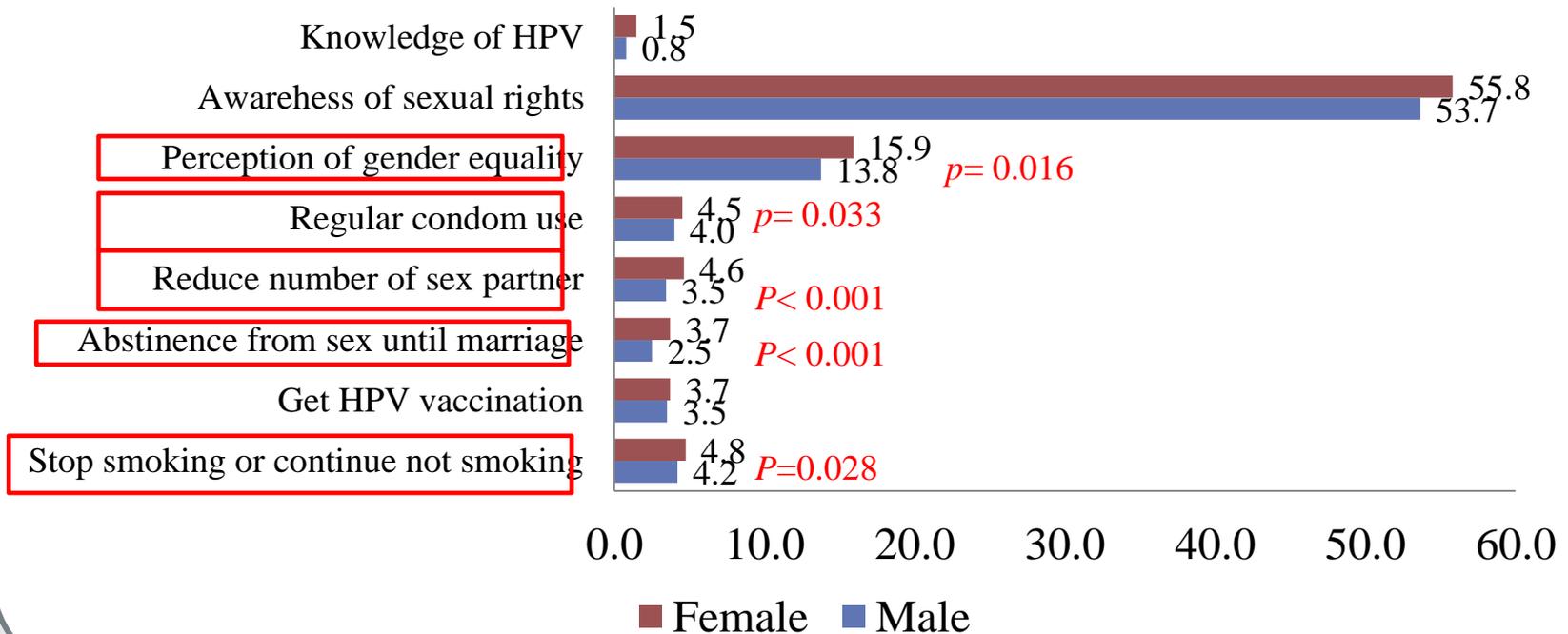
N=59



# Results

## Hypothesis 1

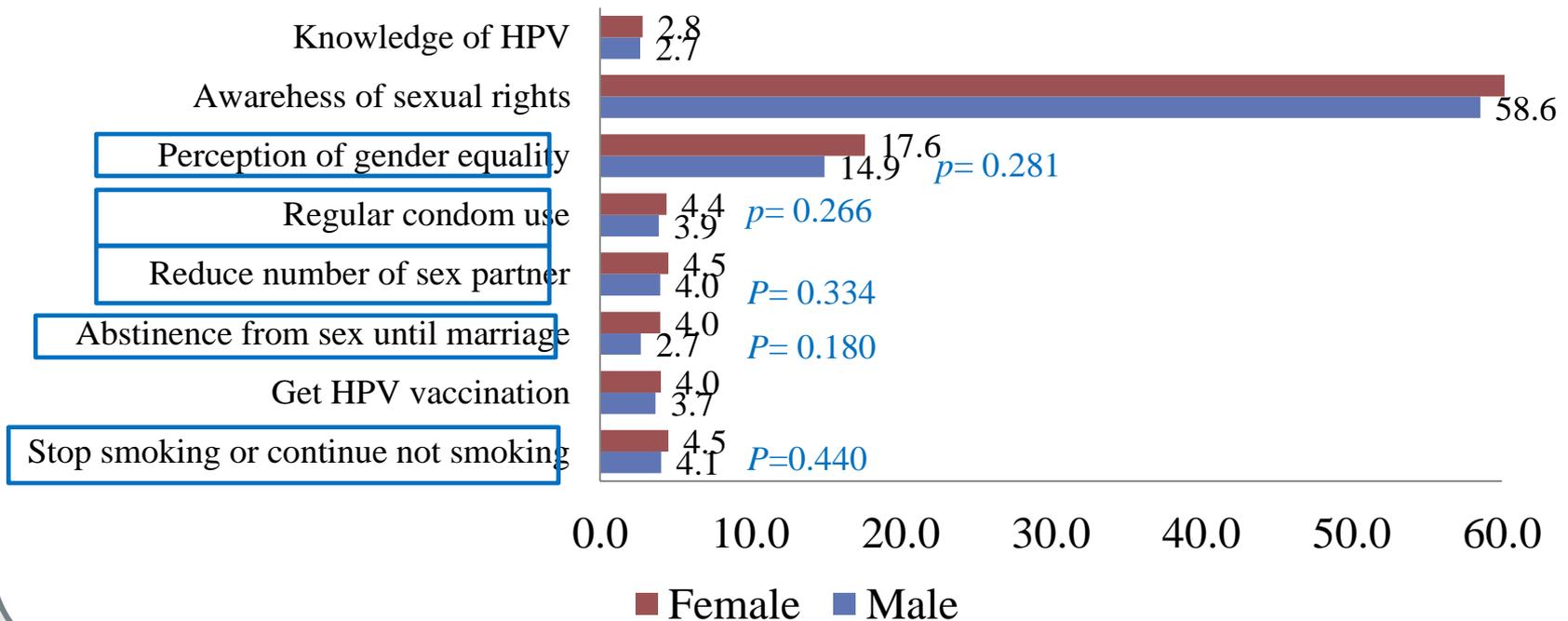
### Pretest



# Results

## Hypothesis 1

### Posttest



# Results

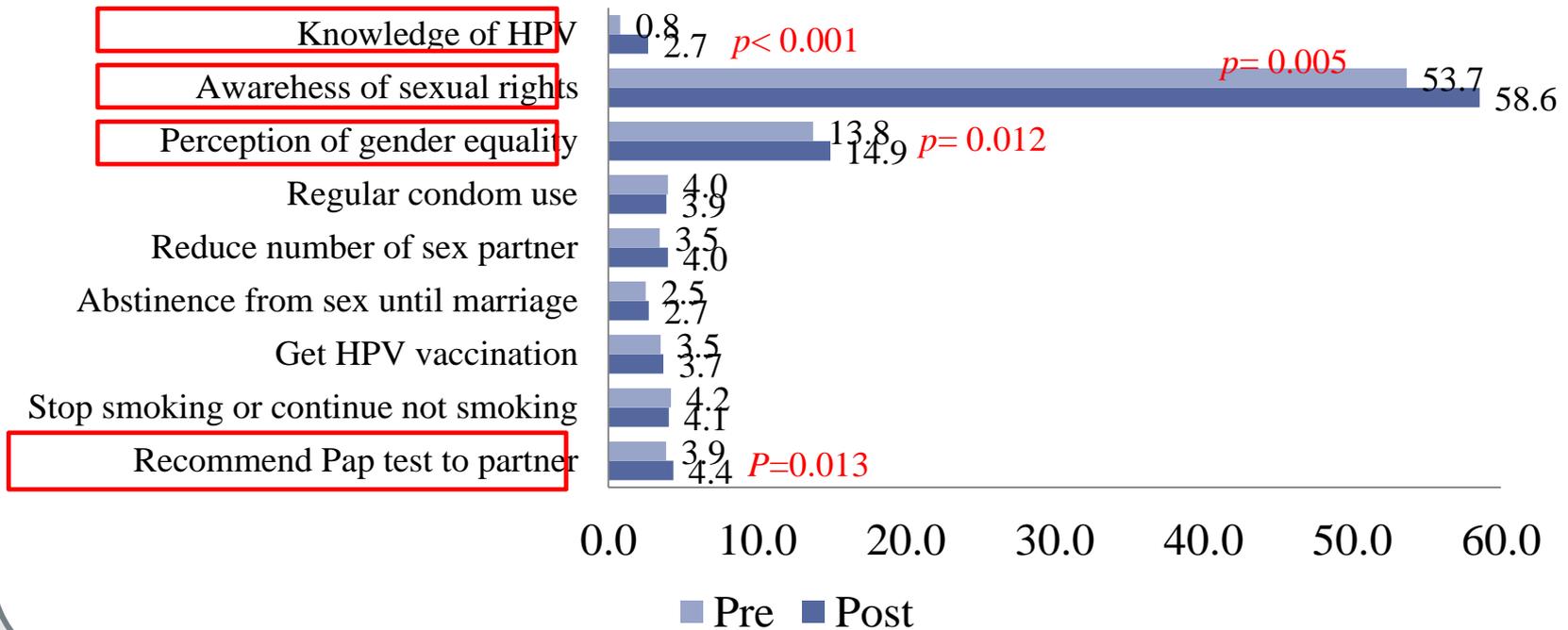
## Hypothesis 1

These findings support the hypothesis that **gender differences are reduced** by **improving knowledge of HPV, awareness of sexual rights and perception of gender equality, and intentions to prevent HPV infection** among male and female university students as a result of completing a gender-based HPV prevention educational program.

# Results

## Hypothesis II

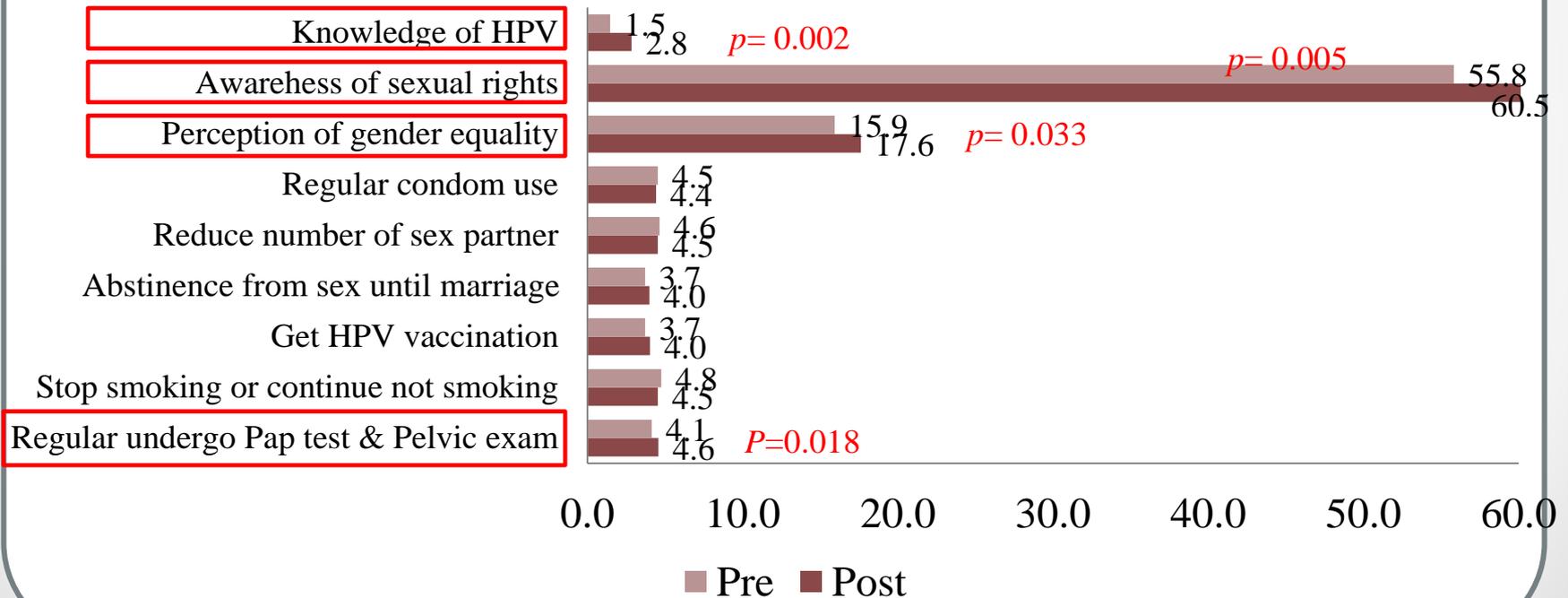
### Male



# Results

## Hypothesis II

### Female



# Results

## Hypothesis II

The hypothesis that **knowledge of HPV, awareness of sexual rights, and perception of gender equality, and intention to prevent HPV will be enhanced in both male and female** university students after completion of a gender-based HPV prevention educational program was supported by our results.

# Conclusions

The gender-based approach was an **effective educational program for both genders**. Future strategies for HPV prevention should **include men** in HPV educational programs in order to reduce the spread of HPV.

# Thank You!



## Acknowledgement:

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