

# Effects of an eating habit modification intervention in female college students with menstrual pain

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SoMi Park<sup>1)</sup>, ChaeWeon Chung<sup>2)</sup>

1) PhD, RN, Professor, Wonju College of Medicine, Yonsei University (Wonju, Korea)

2) PhD, RN, Professor, College of Nursing, Research Institute of Nursing Science, Seoul National University (Seoul, Korea)

## Background

- Current lifestyle trends of young college students include consumption of fast foods, convenient household items, and disposable products, which make them more exposed to endocrine-disrupting chemicals(EDCs).
- EDCs are known to threaten the reproductive health of young women, particularly dysmenorrhea is one of the common issues involving 86.3% of young women.
- Awareness of the health risks posed by EDCs and implementation of health-protective behaviors are necessary for young women throughout their lifespan.

## Purpose

- To identify the effects of an eating habit modification intervention on menstrual pain and urinary Bisphenol A(BPA) levels in female college students who experienced severe dysmenorrhea.

## Methods

- Design : A pre- and post-test experimental design
- Participants
  - A convenience sample of 30 female college students with a score of 7 or higher on the 10-point scale
  - Volunteers recruited by a research assistant after flyer posting throughout a college dormitory
- Intervention
  - A 50-minute educational session including information about EDCs and their impacts on women's health, as well as recommendations for restricting their intake of instant foods, use of plastic containers in the microwave, and use of disposable tableware (Table 1).
- Measurement
  - (1) Menstrual pain: 10-point VAS scale
  - (2) Urinary Bisphenol A: A corrected creatinine value analyzed by a 6410b/Agilent apparatus
- Data collection
  - Pre-test: a week ahead of the intervention by collecting the first morning urine specimen, which was frozen immediately and handed to a research assistant
  - Post test: 4-6weeks after the intervention according to the individual menstrual cycle, collecting the first morning urine

## Table 1. Eating habit modification intervention

Components	Contents
• Risk	• Sources of exposure to EDCs
• Health effects	• Reproductive health problem(dysmenorrhea) related to EDCs
• Individual characteristics	• Frequencies of and chances to exposure to EDCs
• Personal thinking	• Knowledge about EDCs
• Action	• Strategies to change eating habits

## Results

Table 2. Characteristics of the participants

	Mean(SD)	Range
Age(yrs)	22.23(1.99)	20-27
Age of menarche(yrs)	13.03(1.56)	10-17
Menstrual cycle(days)	34.65(8.09)	25-36
Menstrual duration(days)	5.48(1.11)	3-7

Table 3. Comparison of the pre- and post-test scores of the study variables

Variables	Pre-test	Post-test	t	p
	Mean(SD)	Mean(SD)		
Menstrual pain	7.90(1.59)	5.47(1.90)	8.27	<.001
Urinary BPA (ug /g creatinine)	1.18(0.91)	0.53(0.36)	3.43	.002

## Conclusion

As a pilot study, this result showed that the eating habit modification intervention was able to reduce menstrual pain and urinary BPA levels. Educational strategies should include detailed information about EDCs and focus on encouraging young women to adopt healthy eating habits.