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Effects of an Eating Habit Modification Intervention in Female College Students With Menstrual Pain

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Purpose:

This study was conducted to identify the effects of an educational intervention that involved eating habit modifications on menstrual pain and urinary BPA levels in female college students who experienced severe menstrual pain.

Methods:

The study utilized a pre- and post-test experimental design. The participants of the study were a convenience sample of 30 female college students who reported a score of 7 or higher on a menstrual pain scale of 10 points. Volunteers were recruited by a research assistant after flyers were posted throughout a college dormitory. The eating habit modification intervention consisted of a 50-minute educational session that included 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. The pre-test was performed a week ahead of the intervention by collecting the first morning urine specimen, which was frozen immediately and then handed to a research assistant. A 10-point pain scale was used by participants to indicate the maximum pain level experienced during their menstrual cycles that occurred after the intervention. Urinary BPA levels were analyzed using a 6410b/Agilent apparatus with a corrected creatine value.

Results:

The participants were 22.2 (SD=8.09) years old on average and their age at menarche was 13.03 (SD=1.56) years old. The menstrual cycles were, on average 34.7 (SD=8.09) days, and menses lasted for 5.48 (SD=1.11) days. The menstrual pain scores were 7.90 (SD=1.59) in the pre-test and 5.47 (SD=1.90) in the post-test. The urinary BPA level was 1.18 (SD=0.91) in the pre-test and 0.53 (SD=0.36) in the post-test. Significant differences were observed in menstrual pain ($t=8.27$, $p<.000$) and urinary BPA levels ($t=3.43$, $p=.002$) between the pre- and post-test scores.

Conclusion:

As a pilot study, this study showed that a 4-week eating habit modification intervention was able to reduce menstrual pain and urinary BPA levels. Educational strategies should include detailed information about EDCs and should focus on encouraging young women to adopt a pro-environmental lifestyle.

Title:

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Keywords:

Endocrine-disrupting chemicals, habit and menstrual pain

References:

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Abstract Summary:

Environmental factors affect the epidemiological patterns of diseases, and particularly threaten the reproductive health of young women. In this study, an eating habit modification intervention was found to be effective for reducing menstrual pain and bisphenol A (BPA) levels in female college students.

Content Outline:

Background: Exposure to endocrine-disrupting chemicals (EDCs) occurs through air and water pollution, contamination of the food chain, and chemical products. Due to current lifestyle trends, most young college students tend to consume more fast food, to use disposable products, and to utilize convenient household items, all of which expose them to EDCs. Therefore, it is necessary to provide proper education to young women to raise their awareness of the health risks posed by EDCs and to encourage them to implement health-protective behaviors throughout their lifespan.

Purpose: This study was conducted to identify the effects of an educational intervention that involved eating habit modifications on menstrual pain and urinary BPA levels in female college students who experienced severe menstrual pain.

Methods: The study utilized a pre- and post-test experimental design. The participants of the study were a convenience sample of 30 female college students who reported a score of 7 or higher on a menstrual pain scale of 10 points. Volunteers were recruited by a research assistant after flyers were posted throughout a college dormitory. The eating habit modification intervention consisted of a 50-minute educational session that included 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. The pre-test was performed a week ahead of the intervention by collecting the first morning urine specimen, which was frozen immediately and then handed to a research assistant. A 10-point pain scale was used by participants to indicate the maximum

pain level experienced during their menstrual cycles that occurred after the intervention. Urinary BPA levels were analyzed using a 6410b/Agilent apparatus with a corrected creatine value.

Results: The participants were 22.2 (SD=8.09) years old on average and their age at menarche was 13.03 (SD=1.56) years old. The menstrual cycles were, on average 34.7 (SD=8.09) days, and menses lasted for 5.48 (SD=1.11) days. The menstrual pain scores were 7.90 (SD=1.59) in the pre-test and 5.47 (SD=1.90) in the post-test. The urinary BPA level was 1.18 (SD=0.91) in the pre-test and 0.53 (SD=0.36) in the post-test. Significant differences were observed in menstrual pain ($t=8.27$, $p<.001$) and urinary BPA levels ($t=3.43$, $p=.002$) between the pre- and post-test scores.

Conclusion: As a pilot study, this study showed that a 4-week eating habit modification intervention was able to reduce menstrual pain and urinary BPA levels. Educational strategies should include detailed information about EDCs and should focus on encouraging young women to adopt a pro-environmental lifestyle.

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