

The Effect of A Health Information System Adoption on Relieving Dysmenorrhea in Women

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Abstract. This paper is focused on the effect of a health information system adoption on relieving dysmenorrhea in women. Data were collected from 130 women who took health examination in K health promotion center from May 13 to June 14, 2013. The results of this study are as follows. Firstly, the change of abdominal temperature after intervention was significantly higher compared to control group ($t=-2.69$, $p=.028$). Secondly, the present research showed that dysmenorrhea can be reduced to 54.2-67.8% by intervention. In conclusion, this paper resulted in significantly positive effects on relieving dysmenorrhea

Keywords: Health information system, Dysmenorrhea, Women, Abdominal temperature

1 Introduction

Dysmenorrhea is one of the most common pain in women. Dysmenorrhea is a major cause of female uterine myoma and physical dysfunctions, and it is reported that around 75 to 80 percent of women suffer from movement disorders. Menstrual pain would have a poor cardiopulmonary and make low their frequency of physical activity[1],[2]. For the reduction of menstrual pain, treatment and taking medicine will be able to reduce the temporary ache but the grievous pain will be able to occur with the side effect in medicine[3]. In order to solve the problem, we should look for the practical plans. There were few studies to deal with application of a health information system development on relieving dysmenorrhea until present in Korea. This study designed to develop the long-term health intervention program and ultimately to analyze the intervention effect through its application.

Therefore, the purpose of this paper is the effect of a health information system adoption on relieving dysmenorrhea in women. The program on the health for women with menstrual pain is to improve their quality of life, and its effectiveness in health promotion, and to examine their satisfaction for the health information system.

2. Materials and Methods

2.1 Study Materials

Subjects of this study were patients who took health examination in K health promotion center from May 13 to June 14, 2013. 130 women (experimental group 65, comparison group 65) were assigned to an experimental group and a comparison group among women who agreed to participate in intervention program. subjected group participated in health information program for 4 months. They had been estimated before, during and after intervention in reducing dysmenorrhea.

2.2 Study Methods

General characteristics of study subjects were measured by percentage and number. The pairwise t-test was done to compare the before and after intervention effect for performance rate of intervention. This was conducted to observe some significant differences between the two groups before and after the intervention effect program.

3. Results

3.1 General Characteristics of Study Subjects

Table 1 presents general characteristics of study subjects. Below table notes, the response rate(44.6%) of experimental groups was statistically significantly higher than the response rate(24.6%) of control group at the over 25.0 ($X^2=10.92$, $p=.037$) according to the BMI of subjects.

Table 1. General Characteristics of Study Subjects

Variables	Experimental group	Control group	X ²	P
Age				
≤20	9(13.8)	12(18.5)	8.37	.087
30-39	31(47.7)	24(36.9)		
≥40	25(38.5)	29(44.6)		
Marital status				
Single	19(29.2)	16(24.6)	5.49	.281
Married	46(70.8)	49(75.4)		
Educational				
Under middle s.	11(16.9)	15(23.1)	13.52	.069
Middle school	30(46.2)	22(33.8)		

Over college	24(36.9)	28(43.1)		
BMI¶				
18.5≤BMI<23.5	15(23.1)	26(40.0)	10.92	.037*
23.5≤BMI<25.0	21(32.3)	23(35.4)		
≥25.0	29(44.6)	16(24.6)		
Total	65(100.0)	65(100.0)		

* p<.05 ¶ BMI (kg/m²):Body Mass Index

3.2 Comparison of Health Practice Before and After Intervention

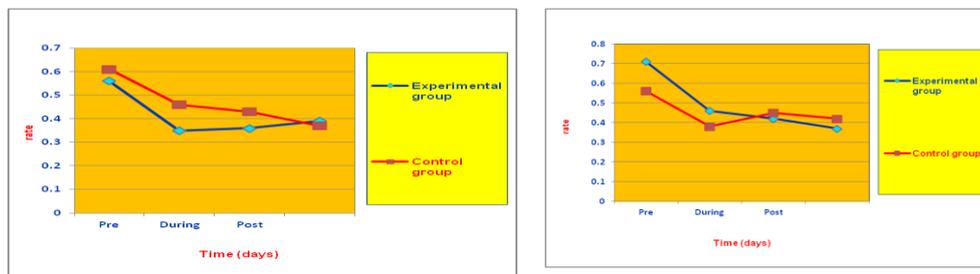
Table 2 presents the comparison of health practice before and after intervention. According to the health practice scores after intervention, the mean score of body weight control after intervention(55.72±1.84) decreased significantly than subjects(t=9.26, p=.045) before intervention(71.92±1.58).

Table 2. Comparison of Health Practice Before and After Intervention

	Before	After	t	p
	Mean±S.D.	Mean±S.D.		
Exercise	28.16±0.94	57.92±0.62	-5.97	.006
Drinking water	35.64±1.72	51.18±0.59	-3.82	.029
Body weight control	71.92±1.58	55.72±1.84	9.26	.045
Carrot intake	48.67±0.92	78.49±0.36	-5.75	.012
Abdominal temp.	37.59±1.57	59.07±2.60	-2.69	.028
Drinking green tea	24.71±0.81	67.35±0.19	-1.82	.001
Taking medication	51.48±0.53	32.74±0.52	8.73	.017
Back pain	77.04±1.80	52.81±0.46	3.51	.036
Abdominal pain	79.29±0.14	49.73±0.61	1.57	.049
Headache	64.57±0.96	35.68±0.29	6.80	.039
Depression	52.19±0.57	41.19±0.57	0.27	.205
Stress	53.36±0.48	35.82±0.49	4.63	.014
HTN	45.98±0.94	31.59±0.61	1.62	.505
Life living activity	32.71±0.50	43.68±0.27	-3.09	.391
Fever	58.44±1.37	45.20±0.52	5.66	.163
Foot/hand pressure	10.27±0.83	31.82±0.18	-2.75	.027

3.3 Comparison of Dysmenorrhea in the Two Groups

Fig. 1 was done to compare the dysmenorrhea as a function of time elapsed before and after intervention in two groups. In terms of drinking of green tea, it was estimated that the intervention effect was significantly higher during menstrual period than during postmenstrual period at experimental group on relieving dysmenorrhea(p<.05)



A. Drinking of green tea

B. Raising low abdominal skin temperature

Fig. 1. Comparison of Dysmenorrhea in the Two Groups

4 Discussion

The result of this paper, raising low abdominal skin temperature was the highest effect in relieving menstrual pain in women. The significance of reduction on the subjects' pain showed after intervention as compared before intervention. The finding was consistent with the result of earlier research[4]. Therefore, it needs to perform systematic health education. There is also a need for a separate program to be implemented on the groups who characterize having lower levels of health knowledge and health promotion behavior

These findings suggest that the application of health information system may be effective to reduce the menstrual pain and increase the abdominal skin temperature in women. Further rigorous studies should be done with more objective measures.

The present research was estimated that the intervention effect was higher in women during menstrual period than before the menstrual period since the intervention. However, the intervention effect was lower in women after the lapse of menstrual period than women during the menstrual period since the intervention. Thus, month-based education should be performed more often in women with menstrual pain. The present research showed that menstrual pain can be reduced to 54.2-67.8% by the intervention, which is similar to data reported in the previous studies[5],[6].

Therefore, this paper was proposed important data such as health information intervention, evaluation, control on menstrual pain, and tasks for efficient prevention. These may also be used for the planning report for reduction of menstrual pain in the future. Thus, this paper revealed that the implemented systematic intervention program of a health information system showed significant positive effects on the life of patients and health behavior.

5 Conclusion

This study was conducted to clarify the comparative effects of health information system on menstrual pain in women. As a result of this study, the detection rate was showed 54.2-67.8% by intervention in relieving dysmenorrhea. Therefore, research findings showed that the health information system is appropriate model.

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