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1) . 2)

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(Won 2000).

가 (Kim, Choi, Jung & Kim, 2000).

(Schmidbaur, Korda-Schmidbaur, & Wienbeck, 1994) ,

가 (Schiller, 2001) (Talley, Jones & Dubois, 2003),

53.4%

(Lee et al., 1996).

, , (Barron, 1990).

(Scott, Oberst, & Drokkin, 1980)

, (Lee et al., 1996),

. Lee Jung(1996)

(Kim, 2002) ,

가

(Kim, 1998),

1)

2) 가

03. 7.30

(E-mail : eschoi@catholic.ac.kr)

03. 8.8

03. 9.8

(Oh, 1998), (Choi, 20001), 3.
(Kang & Kim, 2002)

1) : 가
가

가 70

2) : Rome (Thompson ,
1999) 6가 2가
3 1
(bowel

가 function assessment form)

가

(Choi, 1998 ; Kim & Choi, 2002).

3) :

(Wang, Yoo, & Cha, 2000)

가,

(Jung,
1998), Spielberger (1976)가
STAI Kim Shin(1978)
(State Anxiety Inventory)

4) :

(American
Psychiatry Association, 1994),
Beck가 1961 1978
Beck Depression Inventory(BDI) Kim
(1984)

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1) 1.

가

2) S S 61

가 (31 , 30)

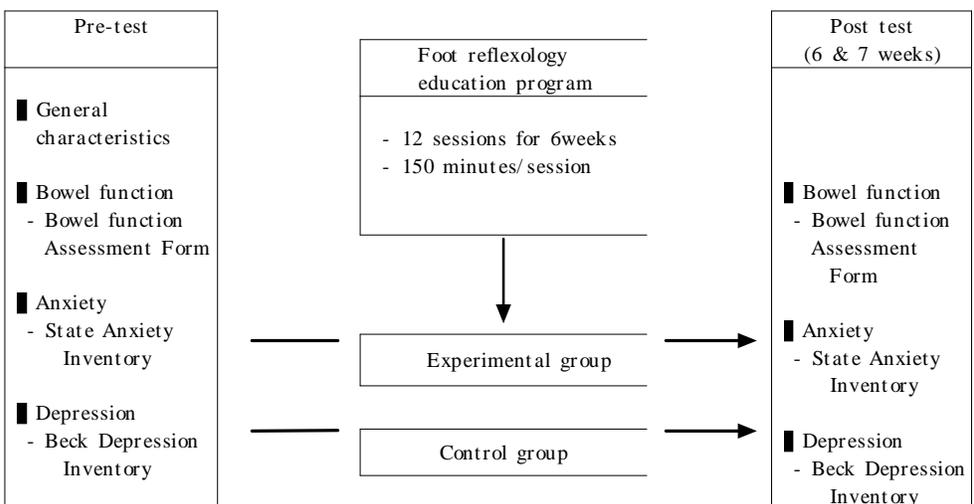
3) Rome II (Tompson et al., 1999) 6가

가 2가 3 1

15, 10, 2, 6, 30, 9, 6, 12, 4-6, 2-3, 8-12 가 (Lett, 1983; Norman & Cowan, 1989)

2, 4, 1, 150 가, 6, 2, 6, 4, 8, 1, 150, 2-3, 6, 7, 12, 30, 20, 50, 30, 64, 12, 32 (10 (83.3%) 가 (6) 7, 1, 2002, 10, 28, 12, 14

<Figure 1>



<Figure 1> Research design

<Table 1> General characteristics between the experimental and control group

Characteristics	Exp.(N=31) n(%)	Cont.(N=30) n(%)	Total(N=61) n(%)	χ^2	p†
Age(years)					
19-21	30 (96.7)	27 (90.0)	57 (93.4)		
22-25	1 (3.2)	3 (10.0)	4 (6.5)	4.14	.126
Grade					
Freshman	27 (87.1)	28 (93.3)	55 (90.1)		
Sophomore	4 (12.9)	2 (6.6)	6 (9.8)	0.22	.414
Residing					
Dormitory	6 (19.3)	2 (6.6)	8 (13.1)		
Lodging house	3 (9.6)	5 (16.6)	8 (13.1)		
Living with family	22 (70.9)	23 (76.6)	45 (73.7)	2.50	.286
Breakfast					
Always	15 (48.3)	11 (36.6)	26 (42.6)		
Sometimes	10 (32.2)	9 (30.0)	19 (31.1)		
Do not	6 (19.3)	10 (33.3)	16 (26.2)	3.12	.373
Main food other than rice					
Noodles and bread	14 (45.1)	15 (50.0)	29 (47.5)		
Meat	2 (6.4)	2 (6.6)	4 (6.5)		
Instant (fast food)	12 (38.7)	9 (30.0)	21 (34.4)		
Others	3 (9.6)	4 (13.3)	7 (11.4)	0.58	.899
Duration of constipation (years)					
≤ 1	11 (35.4)	12 (40.0)	23 (37.7)		
2-3	7 (22.5)	7 (23.3)	14 (22.9)		
4-5	10 (32.2)	4 (13.3)	14 (22.9)		
≥ 6	3 (9.6)	7 (23.3)	10 (16.3)	4.61	.594
Constipation control method					
Nothing	2 (6.4)	1 (3.3)	3 (4.9)		
Water intake	5 (16.1)	5 (16.6)	10 (16.3)		
Lactobacillus drink	6 (19.3)	9 (30.0)	15 (24.5)		
Fibrous food	4 (12.9)	4 (13.3)	8 (13.1)		
Medication	12 (38.7)	11 (36.6)	23 (37.7)		
Traditional method	2 (6.4)	0 (0.0)	2 (3.2)	2.96	.706
Exercise					
Often	1 (3.2)	1 (3.3)	2 (3.2)		
Sometimes	15 (48.3)	16 (53.3)	31 (50.8)		
None	15 (48.3)	13 (43.3)	28 (45.9)	0.15	.923

Exp. : experimental group Cont. : control group † : Homogeneity test

가 3.
6 7
<Table 3> 1)

22.35

<Table 2> Baseline bowel function state, anxiety and depression states between the experimental and control group

Variables	Exp.(N=31)	Cont.(N=30)	t	p†
	Mean(SD)	Mean(SD)		
Bowel function state	7.73(1.38)	7.64(1.65)	0.23	.820
Anxiety	22.35(6.67)	23.46(7.54)	0.61	.544
Depression	32.71(5.52)	35.03(6.67)	1.48	.143

Exp. : experimental group Cont. : control group † : Homogeneity test

<Table 3> Comparison of bowel function state between the experimental and control group

Variables	Before	After 6weeks	After 7weeks	Source	F	p
	Mean(SD)	Mean(SD)	Mean(SD)			
Bowel function state†						
Exp.	7.73(1.38)	5.63(1.62)	5.03(1.25)	Group	19.55	.001
Cont.	7.64(1.65)	7.46(1.74)	7.60(1.82)	Time	23.49	.001
				Gr.×Time	20.53	.001

Exp. : experimental group Cont. : control group Gr. : Group
 † : Outcomes of 6 and 7 weeks were significantly different from those of pre-experiment by Bonferroni multiple comparison (P < .05)

6	20.71	7	16.29	2)		
			23.46			32.71
6	23.16	7	22.00	6	29.48	7
						26.54
						35.03
(p = .037),			(p = .001).	6	35.16	7
			(p = .007),			34.80
			Bonferroni			(p =
			가†			(p =
			7			Bonferroni
<Table 4>.						가

<Table 4> Comparison of Anxiety and Depression states between the experimental and control group

Variables	Before	After 6weeks	After 7weeks	Source	F	p
	Mean(SD)	Mean(SD)	Mean(SD)			
Anxiety†						
Exp.	22.35(6.67)	20.71(6.10)	16.29(5.76)	Group	4.56	.037*
Cont.	23.46(7.54)	23.16(5.84)	22.00(5.33)	Time	13.99	.001
				Gr.×Time	5.11	.007*
Depression† †						
Exp.	32.71(5.51)	29.48(4.80)	26.54(4.77)	Group	22.97	.001
Cont.	35.03(6.67)	35.16(4.82)	34.80(5.62)	Time	10.67	.001
				Gr.×Time	9.22	.001

* p = .05
 Exp. : experimental group Cont. : control group Gr. : Group
 † : Outcomes of 7th week were significantly different from those of pre-experiment by Bonferroni multiple comparison (p < .05)
 † † : Outcomes of 6 and 7 weeks were significantly different from those of pre-experiment by Bonferroni multiple comparison (p < .05)

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<Table 4>.

(Heather, 2000), (Yu-Ru et al., 2001), (Bishop, Mckinnon & Weir, 2003) 가

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가 (Wang ,

2000).

가 (Arce et al., 2002).

가

Stephenson, Weinrich Tavakoli (2000) , Grealish, Lomasney Whiteman(2000) ,

Won (2000) ,

(Wang

Kim Chang(2000) ,

Cho(2001)

Wang Liang (Wang , 2000) 가 63 가 8096 , 48.68%

44%

(Kunz & Kunz, 2001).

6.37% 가

(Lacey, 2002),

(Kim & Chang, 2000; Choi, 2001; Kim & Choi, 2002).

(Krulewitch , 2001).

(Shirley, 2002).

2002 10 28 12 14 S

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61 (31 , 30)

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Bowel

Function Assessment Form, State-Anxiety

Inventory, Beck Depression Inventory

SAS/PC t-test, ²

-test, Bonferroni

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1. 가

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- Abstract -

Effects of Foot Reflexology Education Program on Bowel Function, Anxiety and Depression in Nursing Students

Kim, Yeong Hie¹⁾ · Choi, Euy Soon²⁾

Purpose: The purpose of this study was to probe the effect of foot reflexology education program on nursing students with constipation, anxiety and depression. This study was a quasi-experimental study of pre-test and posttest design on non-equivalent control group. **Method:** The data of this study were collected from October 28, to December 14, 2002. The subjects consisted of 61 nursing students (experimental group: 31, control group: 30) with constipation, anxiety and depression. 31 out of them were divided into the experimental

group and received foot reflexology education program that was authorized by the World Foot Reflexology Association and made to suit for the subjects by the author for 6weeks composed of 2 weeks theory and of 4 weeks practical skill on the program. The effect of the program was measured by Bowel Function Assessment Form for constipation, State Anxiety Inventory, and Beck Depression Inventory. Data were analyzed by t-test, χ^2 -test, Repeated measures ANOVA, Bonferroni multiple comparison using SAS/PC 8.12 program. **Result:** After all session of treatment, the score of bowel function assessment were significantly decreased in the experimental group compared to the control group. Outcomes of 6 and 7 weeks were significantly different from those of pre-experiment. After all session of treatment, anxiety states were significantly decreased in the experimental group compared to the control group. Outcomes of 7 weeks were significantly different from those of pre-experiment. After all session of treatment, depression states were significantly decreased in the experimental group compared to the control group. Outcomes of 6 and 7 weeks were significantly different from those of pre-experiment. **Conclusion:** The results are suggested that the foot reflexology education program might improve the bowel function, anxiety and depression for the nursing students with constipation, anxiety and depression.

Key words : Foot reflexology education Program, Bowel function, Anxiety, Depression

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