

2000 6



가

•	.....	1
1.	.....	1
2.	.....	3
•	.....	4
1.	.....	4
가.	.....	4
.	.....	5
.	.....	7
2.	.....	10
•	.....	13
1.	.....	13
2.	.....	14
가.	.....	14
.	.....	17
. 가	.....	17

•	.....	22
1.	.....	22
2.	.....	26
3.	.....	30
4.	가	40
•	.....	52
•	.....	55
	.....	57
< 1>	.....	62
< 2>	가	66
< 3>	.....	71
< 4>	.....	76
< 5>	.....	77
	.....	78

< 1>	가	.....	18
< 2>		.....	23
< 3>		.....	24
< 4>		.....	27
< 5>		.....	30
< 6>		.....	41
< 7>		.....	45
< 8>		.....	47
< 9>		.....	49
< 10>		.....	50
	95%	.....	50
< 11>		.....	51

< 1>	.....	13
< 2>	.....	14
< 3>	.....	20
< 4>	.....	22
< 5-1>	:	31
< 5-2>	:	32
< 5-3>	: 1	33
< 5-4>	: 2	33
< 5-5>	: 3	34
< 5-6>	:	35
< 6-1>	1	36
< 6-2>	2	36
< 7>	.....	37
< 8>	.....	38
< 9-1>	가	39
< 9-2>	가	39

3 . 가 , 가

4 40 가 75.0%가 “
 ” , 87.5%가 “
 ”

가 , ‘
 ‘ ‘ , ‘
 가 .

가 2.24 (CI: 1.19-4.24), 5.54 (CI: 1.40-21.90)

가

가 86.88

75.83 11.05 ,

t 가

가 .

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1.

가 가

(Stanfield, 1985; , 1986).

, 가

(Lauer, 1982; , 1986), 가 가

가 .

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가

가

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(, 1988).

가 ,

, 가

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가 , (, 1997).

, .
가 .

가 가 , (, 1998;
가 가 , 1999).

,
(Kate, 1995).

, 가
(Ernest, 1996).

, 가 .

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가 .

가 가 .
가 가 .

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1.

가.

가 ,
가

, 가

(, 1998). 가

(, 1999).

1982 (Inter-

national Council for Correspondence Education, ICCE)가

(International Council for Distance Education, ICDE)

(, 1996 ; , 1999).

, “ 가

, ,
” (, 1999).

가
3 가 (, 1999).

(, 1998).

(, 1998).

80

가

, 1989

(The European Laboratory for Particle Physics, CERN)

Tim Berners Lee World Wide Web(WWW) . WWW

,
(Graphic User Interface,
GUI) (hypertext) . WWW 가

, , ,
WWW

가

, , , ,
(Electronic Mail; E-Mail), (File Transfer Protocol, FTP),
(Telnet), (Gopher), (Usenet), (IRC)

WWW

. WWW

가

가 (1998).

가

(, 1999). (Computer-Assisted Instruction, CAI)

(, 1992).

가

가 .

(, 1999).

: (Drill & Practice), (Tutorial Instruction), (Simulation), (Instructional Games)(, 1989).

가

가

가

가

가

가

가 ,

(Harold, 1997).

가

가

가

(Bannan,1997).

가

CD-ROM

가

가

가

(Relan, 1997).

가

가

(Hypertext)

(, 1997).

가

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가, 가,
가,
가
(, 1997). ,
가
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(, 1999).
, 가 가
가
(, 1999).
가
(, 1999).
가
가 .

Jone(1995) " (map) 가 (, 1996).
 " (User Interface)가 가
 (Squires, 1996).

(, 1997).

2.

CAI CAI 가
 (Koch, 1990; , 1995). CAI
 . 90
 CAI
 . CAI
 CAI가
 가 , CAI가
 가 . CAI가
 (, 1995).
 CAI

, Maryland
Critical Care Nurse Snapshots(CCNS)
(1999)

가

(1997)

가 (1997) WebCAIN(Web- based
CAI Program for Nursing)

가

가

가

(O'Very, 1999).

, Plank(1998)

Alta

Vista, Excite, Magellan, Infoseek search engine

Agius(1998)

WWW

Audet(1999)

가

가

가

가

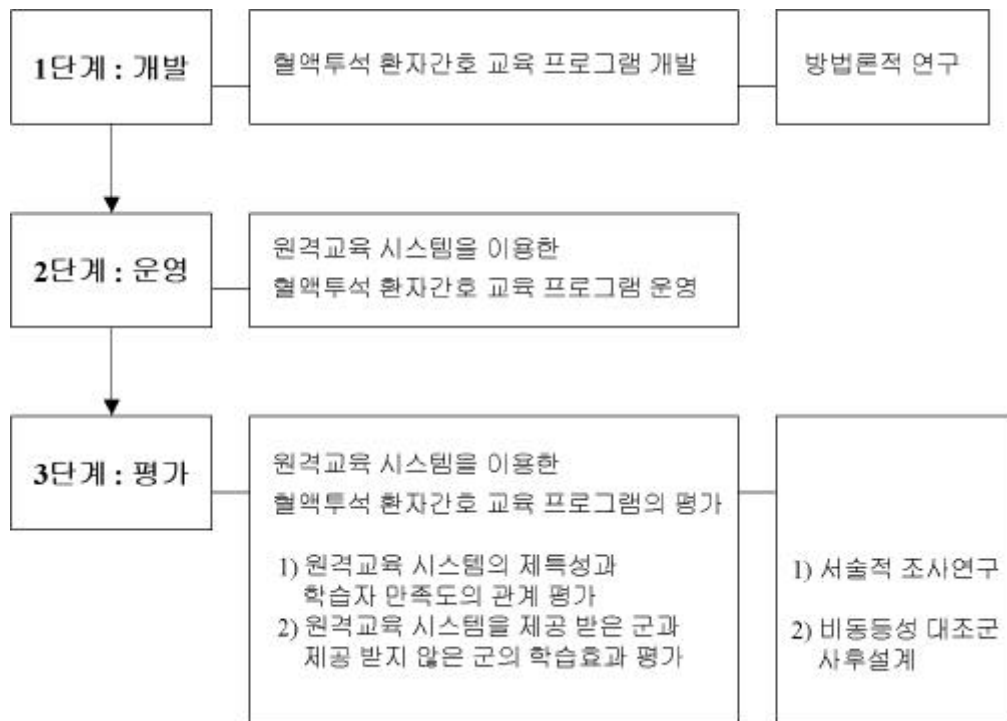
(O'Brien, 2000).

가

, 가 .

1.

, , 가 3 .



< 1 >

, 가
 ,
 가 (nonequivalent control
 group design post only) . 가
 (testing effect)

X	Ye ₂
	Yc ₂

< 2 >

- X :
- Ye₂ :
- Yc₂ :

2.

가.

1997 Y

, 가
2000 2 1 4 8
, 4 10 5 6 4
, 5 8 가 .

가

1)

가)

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가

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5

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가 4

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4 ,

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content validity index(CVI)

CVI 0.80

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2)

3.0

Adobe Photoshop 3.0

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Y
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< 2> 가
 3 . 가
 4 , 5 ,
 9 , 9
 , 2 ,
 < 1> .

가
 < 3>.

2) 가

2000 5 7 5 30 24
 .
 1 : 가 2 (,)
 .
 2 : 가 Y 45
 .
 Y 40
 .
 3 : 40
 36 .

3)

가)

가

가 5 cell Fisher

SPSS 10.0 for Windows



< 3 >

) 가

①

, , , X^2 -test
.

②

가

t-test

1.

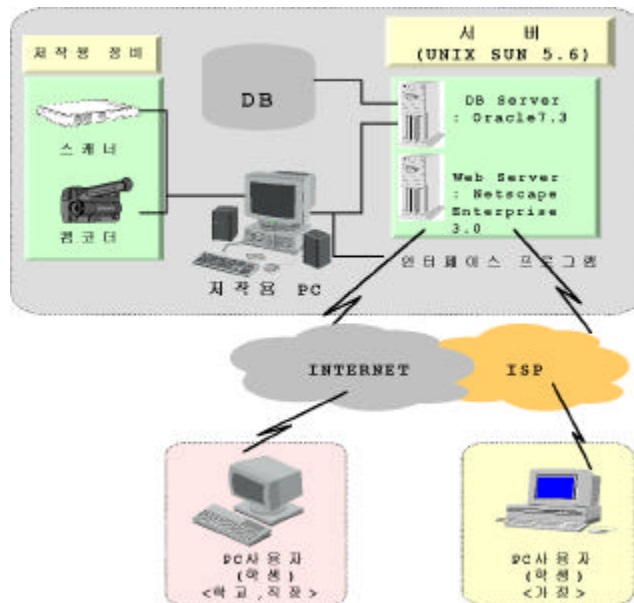
가.

1)

< 4 >

UNIX

(database management system) Oracle 7.3



< 4 >

Netscape Enterprise 3.0

가

. http:// sunwoo.yonsei.ac.kr .

2)

가 4 , 가 ,
가 가

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< 2>

< 2>

-
- - Pentium 120MHz
 - - (Hard disk) 2.1 Giga bytes
 - - Local Area Network (LAN) : ,
Internet Service Provider(ISP) : 가
-

- - Windows 95
 - -
(Netscape 4.5 , Explorer 5.0)
-

3)

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가

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가 ,

가

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- 가, ,
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2.

가.

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 ,
 . 1 , 1 ,
 ,
 . 10 , 18 ,
 10 , 14 52
 < 4>.
 1
 가 < 4>
 52 51 .80 가
 . ' : ' 1 .80
 가
 가 가 1
 4 51 , 4
 4 51 . 가
 CVI 0.95 .

< 4>

	1.	0.95
	2. 4	0.90
	3. 3	0.90
	4. :	1.00
	5. :	1.00
	6. :	1.00
	7. :	0.95
	8. :	1.00
	9. :	0.95
	10.	0.95
	1. :	0.90
	2. :	0.90
	3.	1.00
	4. :	0.95
	5. :	0.95
	6. :	0.90
	7. :	0.95
	8. :	0.90
	9. :	0.95
	10.	0.95
	11.	1.00
	12.	0.95
	13.	0.95
	14. :	1.00
	15. :	0.85
	16. :	0.95
	17. :	1.00
	18. :	0.95

	1. : priming	1.00
	2. :	0.95
	3. :	1.00
	4. :	1.00
	5. :	1.00
	6. 가	0.90
	7.	0.90
	8. Microbiological Monitoring	0.90
	9.	0.95
	10.	0.95
II	1. :	1.00
	2. :	0.90
	3. :	0.95
	4. :	0.95
	5. :	0.90
	6. :	0.85
	7. :	0.70
	8. :	1.00
	9. :	1.00
	10. :	1.00
	11. :	0.95
	12. :	1.00
	13.	0.90
	14.	1.00

1)

4

가

2)

3.0 4 , 1 16 , 2 39
, 3 13 , 4 20 , 1 93

3)

Adobe Photoshop 3.0

4)

1

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5)

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3.

2000 4

10 5 6 4 < 5>.

< 5>



2000. 4. 10 - 5. 6

, , 가 가

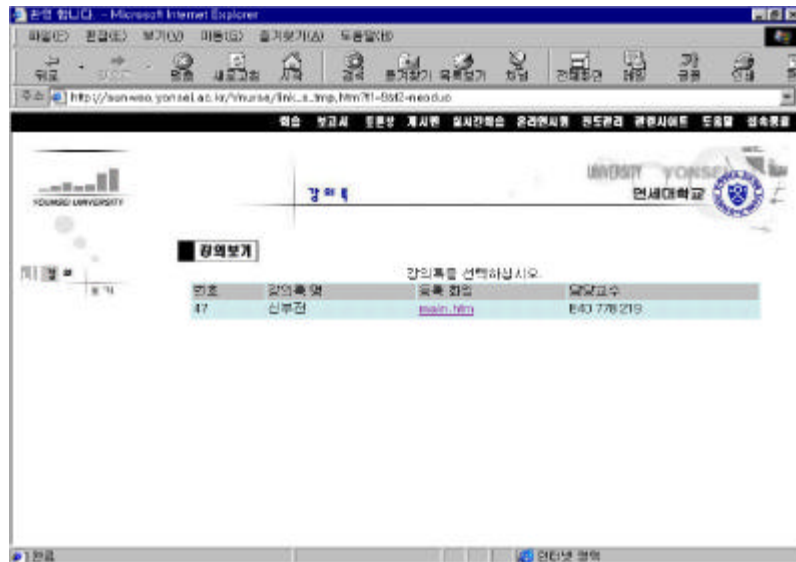
- 1 : ,
- 2 :
- 3 :
- 4 :

가.

가

1) ‘ ’

5-1>

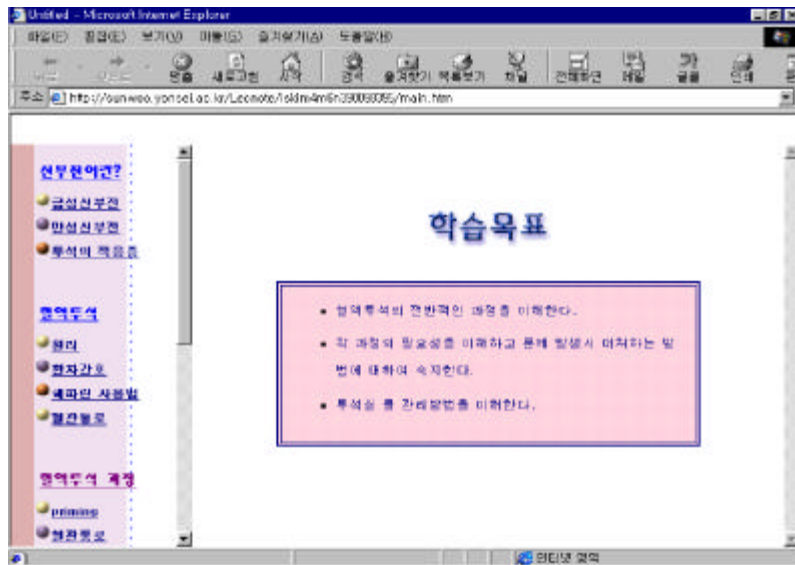


< 5-1> :

< 5-2>

가

가



< 5-2> :

19

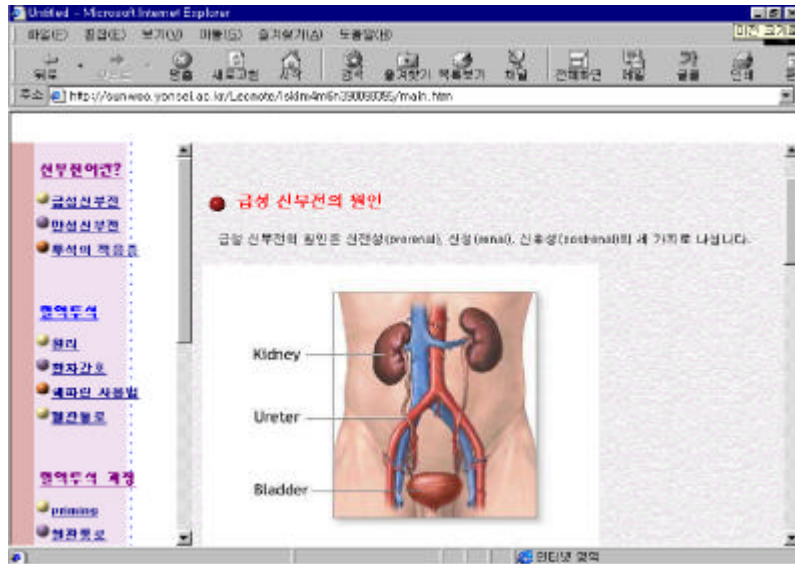
. < 5-3> "

?" " "

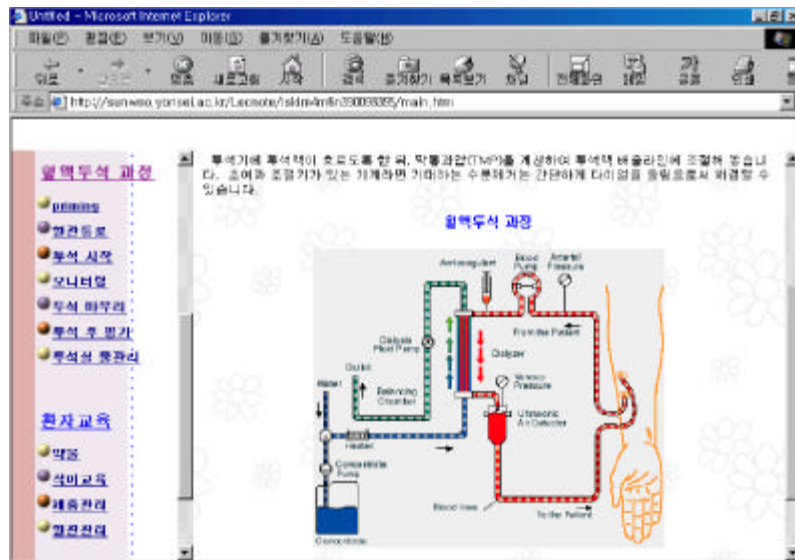
, < 5-4> " " " "

([http:// www.fmc-](http://www.fmc-ag.de)

ag.de).

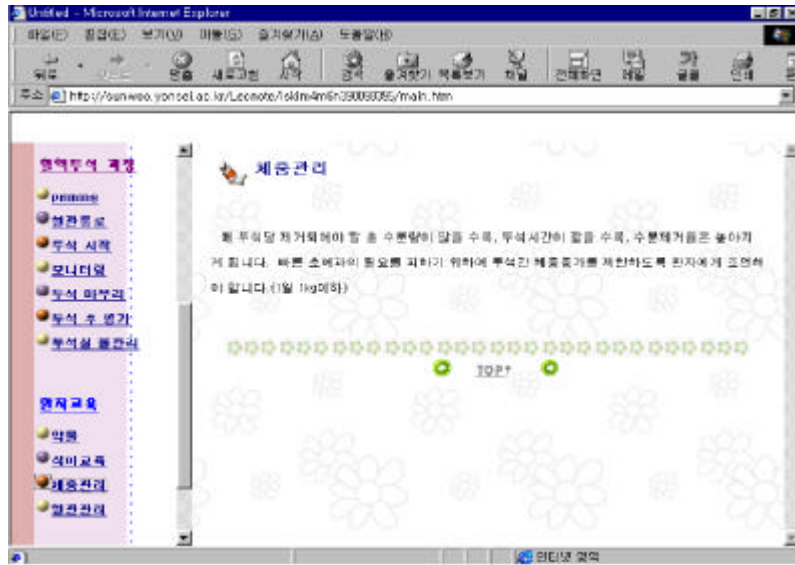


< 5-3> : 1



< 5-4> : 2

< 5-5>.



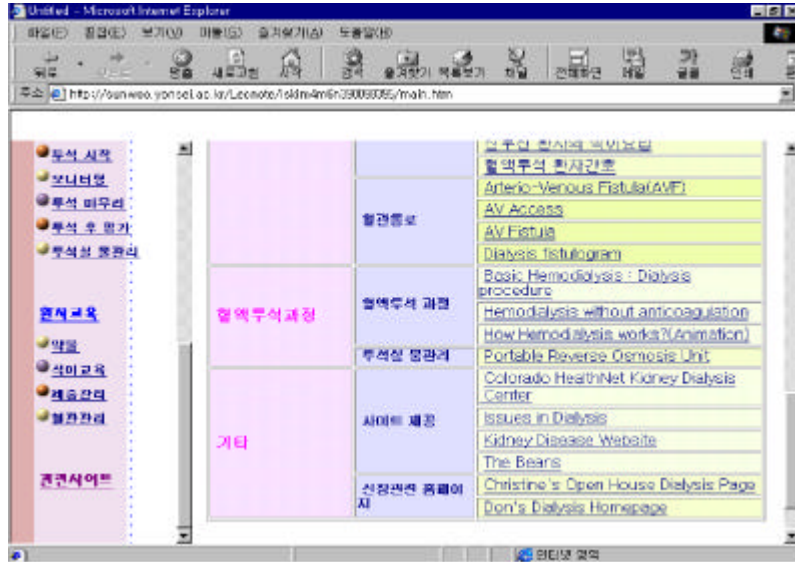
< 5-5> : 3

< 3>.

‘ , ‘ , ‘ , ‘ , ‘ , ‘ 가

47

< 5-6>.



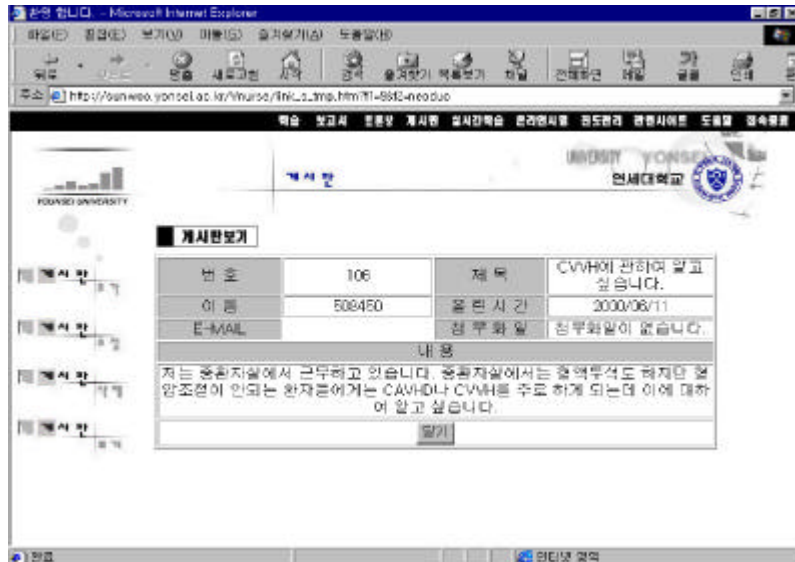
< 5-6> :

2) ‘ ’

6-1>
가

가

, < 6-2>



< 6-1> 1



< 6-2> 2

3) ‘ ,

< 7>

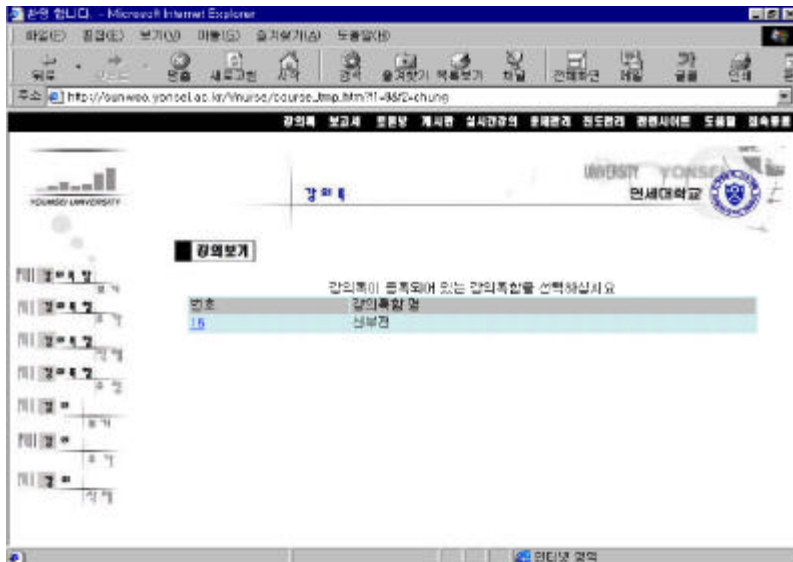


< 7>

1) ‘ ’

가 ‘ ’ ‘ ’ 가

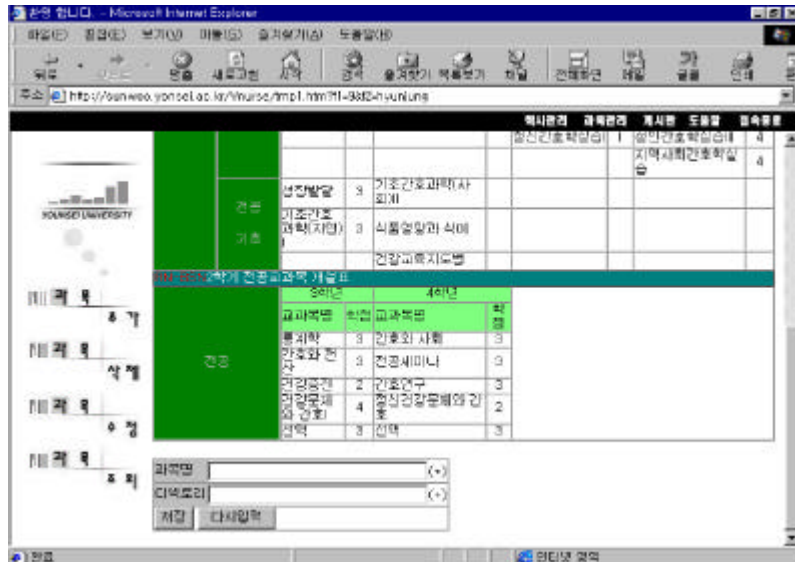
8>.



< 8>

가, , ,

< 9-1>.



< 9-1> 가



< 9-2> 가

가 < 9-2>.

4. 가

가 45
40 가 .
가 .

1)

< 6> .

9 (22.5%), 22 (55.0%), 9
(22.5%) , 4 (11.1%), 21 (58.3%),
11 (30.6%) . 1
4 (10.0%), 1 5 20 (50.0%), 5 10 (40.0%)
, 3 (8.3%), 19 (52.8%), 14 (38.9%)
가 . , ,

가 .

< 6 >

			(n=40)	(n=36)	²	p
			(%)	(%)		
			9 (22.5)	4 (11.1)	1.90	0.13
			22 (55.0)	21 (58.3)		
			9 (22.5)	11 (30.6)		
			40 (100.0)	36 (100.0)		
1	- 5		4 (10.0)	3 (8.3)	0.17	0.56
1			20 (50.0)	19 (52.8)		
5			16 (40.0)	14 (38.9)		
			40 (100.0)	36 (100.0)		
1	- 5		6 (15.0)	13 (36.1)	4.60	0.09
1			28 (70.0)	18 (50.0)		
5			6 (15.0)	5 (13.9)		
			40 (100.0)	36 (100.0)		
			16 (40.0)	19 (52.8)	2.81	0.09
			19 (47.5)	16 (44.4)		
			5 (12.5)	1 (2.8)		
			40 (100.0)	36 (100.0)		
			40 (100.0)	36 (100.0)		
			0 (0)	0 (0)		
			40 (100.0)	36 (100.0)		
			19 (47.5)	19 (52.8)	2.31	0.53
			5 (12.5)	1 (2.8)		
			16 (40.0)	16 (44.5)		
			40 (100.0)	36 (100.0)		
1			5 (12.5)	10 (27.8)	2.76	0.08
1			35 (87.5)	26 (72.2)		
			40 (100.0)	36 (100.0)		
			30 (75.0)	23 (63.9)	1.11	0.21
			10 (25.0)	13 (36.1)		
			40 (100.0)	36 (100.0)		

2)

< 4> .

"

가?"

가 23 (57.5%), "

가?"

가 29 (72.5%), "

가?"

가 35

(87.5%) .

"

가?" 37 (92.5%), "

가

가?" 33

(95.0%),

가

가?" 30 (75.0%),

가?" 38 (95.0%), "

가?" 35 (87.5%)

가

"

가?" 34 (85.0%) .

,

,

가 .

3)

<

5> .

. "

가?" 30 (75.0%), "

가 가?" 34 (85.0%), " (,)가
가?" 36 (90.0%), "
가?" 37 (92.5%)

" (,) 가?"
36 (90.0%), "
가?" 26 (65.0%), "
가?" 35 (87.5%)

" 가?" 24 (60.0%),
" 가?" 26 (65.0%)

" 가?" 30 (75.0%), "
가?" 35
(87.5%)

1)

< 7>

, , ,
 2 가
 8 (88.9%),
 8 (88.9%)
 14 (63.6%) 가 1
 4 (100.0%) 1 5 14
 (70.0%), 5 12 (75.0%) 가
 12 (75.0%),
 14 (73.7%), 4 (66.7%)
 가
 2 가
 15 (78.9%)
 4 (21.1%) 1
 5 (100.0%)
 7 (70.0%) , 3 (30.0%)
 , 23
 (76.7%), 7 (23.3%)

< 7 >

					²	p
		(%)	(%)	(%)		
		8 (88.9)	1 (11.1)	9 (100.0)	2.85	0.61
		14 (63.6)	8 (36.4)	22 (100.0)		
		8 (88.9)	1 (11.1)	9 (100.0)		
1		4 (100.0)	0 (0)	4 (100.0)	1.18	0.39
1	- 5	14 (70.0)	6 (30.0)	20 (100.0)		
5		12 (75.0)	4 (25.0)	16 (100.0)		
1		5 (83.3)	1 (16.7)	6 (100.0)	0.59	0.37
1	- 5	21 (75.0)	7 (25.0)	28 (100.0)		
5		4 (66.7)	2 (33.3)	6 (100.0)		
		12 (75.0)	4 (25.0)	16 (100.0)	0.20	0.56
		14 (73.7)	5 (26.3)	19 (100.0)		
		4 (80.0)	1 (20.0)	5 (100.0)		
		15 (78.9)	4 (21.1)	19 (100.0)	1.01	0.46
		3 (60.0)	2 (40.0)	5 (100.0)		
		12 (75.0)	4 (25.0)	16 (100.0)		
1		5 (100.0)	0 (0)	5 (100.0)		
1		25 (71.4)	10 (28.6)	35 (100.0)		
		7 (70.0)	3 (30.0)	10 (100.0)	0.18	0.48
		23 (76.7)	7 (23.3)	30 (100.0)		

2)

< 8 > .
2

가 “ 가?”

가 , 가 ,

(X²=12.08, p=0.00).

가 “

가?”	28 (80.0%)	, 7 (20.0%)
	가 4 가 ,	
	2 (40.0%),	3 (60.6%)

. “

가?”	19 (82.6%)	가
	, 4 (17.4%)	
4 가 .		

가 “ 가 가” “

가”	29 (76.3%)	가
, 9 (23.7%)		
, 1 (50.0%)	, 1 (50.0%)	

. 가 “

가”	26 (76,5%)	, 8
(23.5%)		가

					X ²	p		
					(%)	(%)		
	19	(82.6)	4	(17.4)	23	(100.0)	1.67	0.18
	11	(64.7)	6	(35.3)	17	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
가	26	(89.7)	3	(10.3)	29	(100.0)	12.08	0.00
	4	(36.4)	7	(63.6)	11	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
	28	(80.0)	7	(20.0)	35	(100.0)	3.73	0.09
	2	(40.0)	3	(60.0)	5	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
	28	(75.7)	9	(24.3)	37	(100.0)	0.12	0.59
	2	(66.7)	1	(33.3)	3	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
	29	(76.3)	9	(23.7)	38	(100.0)	0.70	0.44
	1	(50.0)	1	(50.0)	2	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
가	23	(76.7)	7	(23.3)	30	(100.0)	0.18	0.49
	7	(70.0)	3	(30.0)	10	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
	29	(76.3)	9	(23.7)	38	(100.0)	0.70	0.44
	1	(50.0)	1	(50.0)	2	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
	26	(74.3)	9	(25.7)	35	(100.0)	0.08	0.63
	4	(80.0)	1	(20.0)	5	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
	26	(76.5)	8	(23.5)	34	(100.0)	0.26	0.47
	4	(66.7)	2	(33.3)	6	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		

3)

< 9>

“

가?”

가

($X^2=12.81$, $p=0.00$).

“

가”

가

($X^2=9.22$, $p=0.01$).

가

24 (80.0%) , 6 (20.0%)

6 (60.0%) , 4 (40.0%)

(,)가 가

2 (50.0%), 2 (50.0%)

가

28

(77.8%),

8 (22.2%)

가

4

가

5 (31.3%),

11 (68.8%)

5

(20.8%)

19 (79.2%)

4

							X ²	p
	(%)	(%)	(%)	(%)	(%)	(%)		
가	24	(80.0)	6	(20.0)	30	(100.0)	1.60	0.20
	6	(60.0)	4	(40.0)	10	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
	29	(85.3)	5	(14.7)	34	(100.0)	12.81	0.00
	1	(16.7)	5	(83.3)	6	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
,	27	(75.0)	9	(25.0)	36	(100.0)	0.00	0.74
	3	(75.0)	1	(25.0)	4	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
	29	(75.7)	8	(24.3)	37	(100.0)	0.12	0.59
	1	(66.7)	2	(33.3)	3	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
(,)	28	(77.8)	8	(22.2)	36	(100.0)	1.48	0.26
	2	(50.0)	2	(50.0)	4	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
, ,	20	(76.9)	6	(23.1)	26	(100.0)	0.15	0.49
	10	(71.4)	4	(28.6)	14	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
,	29	(82.9)	6	(17.1)	35	(100.0)	9.22	0.01
	1	(20.0)	4	(80.0)	5	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
	19	(79.2)	5	(20.8)	24	(100.0)	0.56	0.35
	11	(68.8)	5	(31.2)	16	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		
	20	(76.9)	6	(23.1)	26	(100.0)	0.15	0.49
	10	(71.4)	4	(28.6)	14	(100.0)		
	30	(75.0)	10	(25.0)	40	(100.0)		

4)

, ,
 , , 가
 < 10> (odds ratio)
 95% (confidence interval; CI) .
 가 2.24 (CI: 1.19-4.24)
 가 가 5.54 (CI:
 1.40-21.90) .

< 10>	95%
	95%
2.24	1.19-4.24*
1.55	0.48-5.02
0.82	0.48-1.40
5.54	1.40-21.90*
1.41	0.76-2.62
1.04	0.67-1.61

5) 가 가

가 < 11> .
 86.88 , 75.83
 11.05 , t
 가 .

< 11>

	\pm	t	p
(n=40)	86.88 ± 7.65		
(n=36)	75.83 ± 15.38	7.34	0.01

•

4

가 .
가

X²-test,

t-test

75.0%가

87.5%가

“ 가?”, “

가

가?”, “

가?”

가

가 2.24 (CI: 1.19-4.24), 5.54 (CI:

1.40-21.90)

가

86.88 ,

75.83

11.05

t-test

가

가 가
(1999) ,
, (1998)
35
가 . (1997)
가
(1995) (1997) 가 .
가
가 가 .

가

4

가

•

, 가

,

, 가 3 .

, 가

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가

4

40

가 75.0%가 “

”

, 87.5%가 “

”

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‘ 가

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가

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,

,

가

가

가 2.24

(CI: 1.19-4.24)

,

가

가 5.54 (CI: 1.40-21.90)

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가
가
86.88 , 75.83 11.05
, t 가
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가
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structure
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가
가
가
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-. 1998; 8(1): 125-144
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. 1997; 3(2): 147-152
. 1985;
1(1): 113-122
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가 , 1986
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. 1998; 4(2): 59-68
 1986; 31:
 483-487
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1997; 27(1): 120-127

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1997; 3(2):
153-160

, 1991

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, 1989

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< 1 >

?

가

가

2000 5

I.

1. _____ ?

① _____ ② _____ ③ _____

2-1. _____

2-2. _____

3. ? ① _____ ② _____

③ _____ ④ _____

4. ? ① _____ ② _____

4-1. _____ ?

① _____ ② _____

③ _____

4-2. _____ ?

① _____ 1 ② _____ 1 6

③ _____ 6 1 ④ _____ 1

4-3. _____ .

① _____ (MS word, _____ , powerpoint)

② _____ (SPSS, SAS, EXCELL, D-Base program)

③ _____ PC ④ _____ ⑤ _____ E-mail

⑥ _____ ⑦ _____ (MEDLINE)

⑧ _____ ⑨ _____

_____ (_____)

1.

가?

2.

가?
가

3.

가?

4.

가?

5.

가 가?

6.

가 가?

7.

가?

8.

가?

9.

가?

10. 가?

11. 가?

12. 가?

13. 가?

14. ,)가 가? (

15. , 가?

16. 가? (,)

17. 가? ,

18. 가? ,

19. 가 가 가
가?

20. 가?

< 2 > 가

1. 3가 가 .

(ATN)
? ()

- ① (prerenal) ② (renal) ③ (postrenal)

2. 4 48 2
400ml ? ()

- ① ② ③ ④

3. 3 가 10ml/min
, -
? ()

- ① ② ③

4. . ()

- ① ② ③ ④

5. A B가 가
? ()

- ① ② ③ ④

6. 가 ? ()

- ①
- ②
- ③
- ④

7. ? ()

- ① 2 Quinine sulfate Oxazepam .
- ② .
- ③ 145mEq/ L .
- ④ 135mEq/ L .

8. .

? ()

- ① (Systemic Heparinization)
- ② (Regional Heparinization)
- ③ (Free Heparinization)
- ④

9. 가 4 가 ? ()

- ①
- ②
- ③
- ④

10. ()
EO가 EO)
? ()

- ① Priming ② Bleed ③ recirculation ④

11. ? ()

- ① 50ml/ min ② 100ml/ min ③ 150-250ml/ min ④ 300ml/ min

12. ? ()

- ① 가 (,)
②
③
④ 가 가

13. 250mmHg 가 .
? ()

- ① 가
②
③
④

14. 가 ? ()

①

② (BUN)

③

④

15. 가 가 가 .

가 가 가 ? ()

① Softener() ② Activated Carbon Filter()

③ Particular Filter() ④ Reverse Osmosis()

16. ? ()

① From the patient → Arterial pressure → Air detector → Blood pump → Venous pressure → Dialyzer → To the patient

② From the patient → Arterial pressure → Blood pump → Dialyzer → Venous pressure → Air detector → To the patient

③ From the patient → Arterial pressure → Dialyzer → Venous pressure → Blood pump → Air detector → To the patient

④ From the patient → Venous pressure → Blood pump → Arterial pressure → Dialyzer → Air detector → To the patient

17. .

? ()

- ① ② ③ ④

18. . ?()

- ① . ② .
- ③ . ④ .

19. .

? ()

- ① . ②

가

- ③ , , .
- ④ .

20. , ,

가

가가

? ()

- ① 1 500-1000cc .
- ② 가가 2.0-2.5kg .
- ③ 1 1kg 가 가 .
- ④ 1 2kg 가 가 .

< 3 >

I. :

1. Acute Renal Failure(1)

(<http://emedicine.com/cgi-bin/foxweb.exe/showsection@d:/em/ga?book=emerg&topicid=500>)

2. Acute Renal Failure(2)

(<http://ocnow.adam.com/ency/article/000501.htm>)

3. Acute Renal Failure(3)

(<http://www.merck.com/pubs/mmannual/section17/chapter222/222b.htm>)

4. Acute Renal Failure(4)

(<http://www.embbs.com/cr/rf/rf.html>)

I. :

1. Anemia in CRF

(<http://www.kidney.org/professionals/doqi/doqi/doqianemia.html>)

2. Chronic Renal Failure(1)

(<http://ocnow.adam.com/ency/article/000471.htm>)

3. Chronic Renal Failure(2)

(<http://www.merck.com/pubs/mmannual/section17/chapter222/222c.htm>)

4. Chronic Renal Failure(3)

(<http://www.healthanswers.com/centers/body/overview.asp?id=urinary+system&filename=559.htm>)

5. Chronic Renal Failure Suggestions

(<http://www.mediconsult.com/mc/mcsite.nsf/conditionnav/renal~medilibrarybysubject~educationalmaterial?OpenDocument&Start=1&Count=30&Expand=1>)

6. End-Stage Renal Disease

(http://my.webmd.com/content/dmk/dmk_summary_account_2506566)

7. Renal Disease

(<http://216.149.211.66/kidney/toc.htm>)

8. ,

(<http://kid.gsnu.ac.kr/student/ch17.htm>)

I. :

1. How the Kidney Works?

(<http://nephron.com/hkw.html>)

2. Urinary System

(<http://www.hope.edu/academic/biology/faculty/sydlik/urinary.html>)

II. :

1. Alternative Hemodialytic Techniques(CVVH, CAVHD...)

(http://www.kumc.edu/SAH/resp_care/cybercas/franalt.html)

2. Dialysis(1)

(<http://ocnow.adam.com/ency/article/003421.htm>)

3. Dialysis(2)

(<http://www.healthanswers.com/video/media/audio4.asp?videoid=641>)

4. Hemodialysis(1)
(<http://www.kidneydirections.com/patients/choices/hemo/index.htm>)
5. Hemodialysis(2)
(<http://www.kidney.org/professionals/doqi/doqi/doqihd.html>)
6. Hemodialysis(3)
(<http://www.kidney.ca/hem-e.htm>)
7. Hemodialysis(Glossary)
(http://medhlp.netusa.net/glossary/new/GLS_2170.HTM)
8. Hemodialysis Catheter
(<http://www.angiodynamics.com/hemocat.htm>)
9. Hemodialysis & CVVH
([http://www.merck.com/pubs/mmannual/figures/223fig1.htm](http://www.merck.com/pubs/mmmanual/figures/223fig1.htm))
10. Hemodialytic Procedure
(http://www.kumc.edu/SAH/resp_care/cybercas/franhemo.html)
11. Nocturnal Hemodialysis
(<http://www.cma.ca/cmaj/vol-161/issue-9/1137.htm>)
12. What is Dialysis?
(<http://nephron.com/dialysis.html>)

II. :

1. Dialysis Patient Information
(<http://www.kdf.org.sg/aboutkidney.html>)
2. Dialysis & Nutrition
(<http://www.med.virginia.edu/medcntr/centers/medserv/kidney/nukid1.htm>)
3. Kidney Patient Guide : Diet

(<http://www.kidneypatientguide.org.uk/site/diet.html>)

4. Planning Diet

(<http://www.kidneydirections.com/patients/delay/diet/index.htm>)

5. Potential Cross-Contamination Linked to Hemodialysis Treatment

(<http://www.fda.gov/cdrh/safety/althin.html>)

6.

(<http://my.netian.com/~go373/si.htm>)

7.

(http://www.renalnet.co.kr/kidney/newclinic_detail.asp?div=9)

II. :

1. Arterio-Venous Fistula(AVF)

(<http://www.kidney.org/professionals/doqi/doqi/doqiva.html>)

2. AV Access

(<http://nephron.com/avaccess.html>)

3. AV Fistula

(http://www.ins1.org/st_st79.htm)

4. Dialysis Fistulogram

(<http://www.bewell.com/dph/html/chapter/mono/ir015000.asp>)

III. :

1. Basic Hemodialysis : Dialysis Procedure

(<http://www.hdcn.com/ddhtip.htm>)

2. Hemodialysis without Anticoagulation

(http://www.ajkdjournal.org/abs5_1/85094234.htm)

3. How Hemodialysis Works?(Animation)

(<http://www.kidneypatientguide.org.uk/site/HDanim.html>)

III. :

1. Portable Reverse Osmosis Unit

(<http://www.betterwater.com/nfportable.htm>)

IV.

1. Colorado HealthNet Kidney Dialysis Center

(<http://www.coloradohealthnet.org/>)

2. Issues in Dialysis

(<http://nephron.com/links.html#dialysis>)

3. Kidney Disease Website

(<http://www.city.windsor.on.ca/wpl/power/kidney.htm>)

4. The Beans

(<http://ctr.umkc.edu/user/ssivarajan/index.html>)

5. Christine's Open House Dialysis Page

(<http://www.geocities.com/HotSprings/Falls/7375/>)

6. Don's Dialysis Homepage

(<http://www.themainnet.net/~burns62/dialysis/dialysis.htm>)

< 4 >

		4	3	2	1				±	
		(%)	(%)	(%)	(%)	(%)				
		6 (15.0)	17 (42.5)	15 (37.5)	2 (5.0)	40 (100.0)	2.68	0.80		
가?										
가		4 (10.0)	25 (62.5)	11 (27.5)	0 (0)	40 (100.0)	2.83	0.59		
가?										
가?		9 (22.5)	26 (65.0)	5 (12.5)	0 (0)	40 (100.0)	3.10	0.59		
가?		10 (25.0)	27 (67.5)	3 (7.5)	0 (0)	40 (100.0)	3.18	0.55		
가 가?		13 (32.5)	25 (62.5)	2 (5.0)	0 (0)	40 (100.0)	3.28	0.55		
가 가?		7 (17.5)	23 (57.5)	10 (25.0)	0 (0)	40 (100.0)	2.93	0.66		
가?		10 (25.0)	28 (70.0)	2 (5.0)	0 (0)	40 (100.0)	3.20	0.52		
가?		8 (20.0)	27 (67.5)	5 (12.5)	0 (0)	40 (100.0)	3.08	0.57		
가?		17 (42.5)	17 (42.5)	6 (15.0)	0 (0)	40 (100.0)	3.28	0.72		
가?										

< 5 >

						±	
	4	3	2	1			
	(%)	(%)	(%)	(%)	(%)		
가?	11 (27.5)	19 (47.5)	3 (7.5)	7 (17.5)	40 (100.0)	2.85	1.03
가?	17 (42.5)	17 (42.5)	4 (10.0)	2 (5.0)	40 (100.0)	3.23	0.83
가?	21 (52.5)	15 (37.5)	4 (10.0)	0 (0)	40 (100.0)	3.43	0.68
()가 , 가?	12 (30.0)	25 (62.5)	3 (7.5)	0 (0)	40 (100.0)	3.23	0.58
가?	9 (22.5)	27 (67.5)	4 (10.0)	0 (0)	40 (100.0)	3.13	0.56
(,) 가?	3 (7.5)	23 (57.5)	12 (30.0)	2 (5.0)	40 (100.0)	2.68	0.69
가?	14 (35.0)	21 (52.5)	5 (12.5)	0 (0)	40 (100.0)	3.23	0.66
가?	가 13 (32.5)	11 (27.5)	16 (40.0)	0 (0)	40 (100.0)	2.93	0.86
가?	9 (22.5)	17 (42.5)	13 (32.5)	1 (2.5)	40 (100.0)	2.85	0.80
가?	10 (25.0)	20 (50.0)	10 (25.0)	0 (0)	40 (100.0)	3.00	0.72
가?	16 (40.0)	19 (47.5)	5 (12.5)	0 (0)	40 (100.0)	3.28	0.68
가?							

Abstract

Development and Effectiveness of Hemodialysis Nursing Education Program Using Web-based Learning System

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Yonsei University

(Directed by Professor In Sook Kim, Ph.D.)

The objective of this study was to develop hemodialysis nursing program using web-based learning system and to evaluate its effectiveness.

The program was developed in two steps, development of the contents using CVI, and programming with HTML. And the system was operated to forty-five nurses for four weeks. The data was collected from forty nurses using questionnaires.

The results of satisfaction study showed that 75.0% of subjects were satisfied with the web-based learning system and 87.5% of them stated that they would recommend this system to the other nursing educational program.

In the educational materials characteristics, much higher satisfaction

was induced when the subjects answered positively to the item 'effectiveness to the educational materials provided with internet'. In the system characteristics, much higher satisfaction was also induced when the subjects answered positively to the item 'convenience in system usage' and 'monitor size and resolution power'.

In terms of 'the relevance of learning strategy' and 'screen configuration', satisfaction level in subjects showed 2.24 times and 5.54 times higher score respectively if they answered these areas positively.

The results of evaluation in knowledge toward hemodialysis nursing indicated that distance learning group showed statistically significant difference ($t=7.34$, $p<0.05$) compared with control group that didn't receive a distance learning program.

It is concluded that if web-based learning system is operated considering all the above factors, it would be one of the best qualified continuing educational method for nurses.