

: , , ,

\*

\*\*

. Barnett (1997)

1.

Curt (2000)

, 30%

88%

가

75%

가

가

(King et al., 1997; Padilla & Grant, 1985). 가

가

(cancer-related fatigue)

(10 )

(Portenoy &

Itri, 1999).

2

가

(Clark

& Lacasse, 1998),

70-90%

10

5

가

(Molassiotis & Chan, 2001;

(Wells & Fedric, 2001). 1) ,

Pickard-Holley, 1997).

2) , 3)

, 4)

, 5)

, 6)

, 7)

, 8)

, 9)

, 10)

가

\* 2000

\*\*

2001 12 31

2002 3 18

2002 6 18

31% Choi(1999) 가

2.

가

(Jamar, 1989; Molassiotis & Chan, 2001; Park, 1999; Richardson, Ream & Wilson-Barnett, 1998)

1) 2) 3)

3-5 가 가

가

가

1) :

가

(Piper et al, 1998)

2) :

(Jang, Padilla et al,1983),

1993; Song, 1992)

가

3) : EMFC(Epirubicin, Methotrexate, 5-Fu, Cisplatin) 3

가

Park(1999) 3 6

1 21 가

Shin (1999) 10

가

Molassiotis Chan(2001) 1.

2

, Zittoun, Achard Runzniewski EMFC 6

(1999) 18-70

10 3 가

. Richardson (1998)

109

3 4 (2000.01.~ 2001.04.) 21 가

6 3

4

11 . 11 6

가 가 가 3 , 5 4

가 4

2.

1) ;  
 2) ; Piper (1998) 'Revised Piper Fatigue Scale' Lee(1999) SPSS Window(ver.10)  
 (0-10 ) Pearson  
 가  
 Cronbach's alpha repeated ANOVA  
 = .88 10 4  
 3) ; (Kim, 1997; Kwon, 1990; Padilla et al., 1983) 6 5  
 1 ,  
 1 , 1  
 10 1.  
 9 , 32-64 51.18  
 4 , 5 , 1 (±11.21) 가 63.4% , 72.7%  
 19 10 가 (45.5%)  
 Cronbach's alpha = .82 (27.3%) 가 36.4% ,  
 18.2% , 18.2% (54.5%)  
 3. (45.4%) . 11  
 <Table 1> .  
 91%가 1 3  
 7 가 .

<Table 1> Demographic and Cancer-Related Characteristics

ID	age	sex	marital status	education	job	economic status	cancer stage	metastasis	weight change
1	57	M	married	elementary	farmer	middle	4	yes	decreased
2	59	M	married	elementary	own business	low	3	no	decreased
3	59	M	married	middle/high	no job	low	1	no	decreased
4	32	M	married	college	salaryman	low	3	no	decreased
5	62	M	married	elementary	no job	low	1	no	decreased
6	64	F	single	middle/high	housekeeper	middle	3	no	decreased
7	37	F	married	middle/high	housekeeper	middle	3	no	decreased
8	40	F	married	middle/high	housekeeper	middle	3	no	decreased
9	48	M	married	middle/high	daily-waged worker	middle	1	no	no change
10	45	M	single	college	salaryman	middle	1	no	increased
11	60	F	single	no educated	housekeeper	low	1	no	no change

<Table 2> Demographic and Cancer-Related Characteristics in Drop-Out Patients

ID	age	sex	economic status	cancer stage	metastasis	weight change	time at stoppedchemo.	reason of attrition
d1	46	M	middle	4	yes	decreased	3	poor condition
d2	32	F	upper	3	no	decreased	3	rejection of research
d3	62	F	middle	3	no	decreased	3	rejection of chemo.
d4	63	M	middle	3	no	decreased	3	poor condition
d5	63	M	middle	4	yes	decreased	2	poor condition
d6	62	M	low	3	no	decreased	2	poor condition
d7	58	M	middle	3	no	decreased	3	poor condition
d8	38	M	middle	4	no	decreased	1	rejection of chemo.
d9	41	M	middle	3	no	decreased	2	rejection of chemo.
d10	68	M	middle	3	no	decreased	3	financial problem

가 <Table 2> 10 . 10 5 1, 2, 3, 5 1  
 가 32-68 53.3(±12.78) 3 9.50 가  
 (80%)가 10 1  
 3 가 7, 4 가 3 0.56 가  
 20% 3 4.78,  
 가 4 4.25 가 1 2.95, 6 2.02  
 3 가 <Figure 1>, <Table  
 1 4> (p = .079).  
 90%가  
 (50%) (30%)

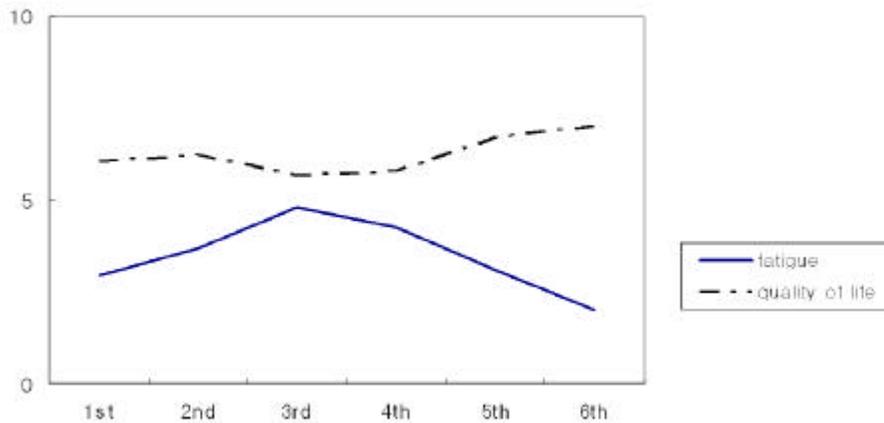
<Table 4> Repeated ANOVA of Change Patterns of Fatigue during Consecutive Chemotherapies

order of chemo.	mean	SD	F	p
1st chemo.	2.95	1.72	2.494	.079
2nd chemo.	3.70	2.08		
3rd chemo.	4.78	2.66		
4th chemo.	4.25	2.13		

2)  
 4 <Table 3>  
 <Figure 1>  
 10 가  
 1.88 가 2 가 6.68 가

<Table 3> Fatigue Scores of Each Subject during Consecutive Chemotherapies

ID	1st chemo	2nd chemo	3rd chemo	4th chemo	5th chemo	6th chemo	mean(SD)
1	.72	4.83	9.50	6.11	5.33	.	5.30(3.14)
2	3.89	8.50	7.39	6.94	.	.	6.68(1.97)
3	4.61	2.89	8.83	4.06	.	.	5.09(2.59)
4	4.33	4.17	3.89	1.61	1.94	1.94	2.98(1.27)
5	2.00	4.17	3.22	2.28	2.39	1.22	2.55(1.02)
6	2.33	2.00	2.50	2.17	2.06	.	2.21(0.20)
7	4.83	4.22	3.22	3.94	.	.	4.06(0.67)
8	3.56	3.00	4.72	7.61	.	.	4.72(2.05)
9	.83	1.39	1.72	3.00	2.78	2.89	2.10(0.91)
10	.56	.89	2.50	2.72	2.72	.	1.88(1.06)
11	4.78	4.61	5.06	6.28	4.28	.	5.00(0.77)
mean(SD)	2.95(1.71)	3.70(2.08)	4.78(2.66)	4.25(2.13)	3.07(1.26)	2.02(.84)	



3)

(p = .271).

<Table 5>

<Figure 1>

<Table 6> Repeated ANOVA of the Change Patterns of Quality of Life during Consecutive Chemotherapies

order of chemo.	mean	SD	F	p
1st chemo.	6.07	.99	1.370	.271
2nd chemo.	6.22	1.14		
3rd chemo.	5.70	1.36		
4th chemo.	5.79	1.06		

가 7.08, 7.71 가 9 10  
 4.87 가 .3 8 5 (10  
 )  
 10 2  
 8.12가 가 1 3  
 3.83 가  
 5 가 4)  
 6.70, 6 가 7.03 가 3 가 6  
 5.70, 4 가 5.79 가  
 <Figure 1>, 4

11

3

<Table 7>. 6

<Table 6>.

<Table 5> Quality of Life Scores of Each Subject during Consecutive Chemotherapies

ID	1st	2nd	3rd	4th	5th	6th	mean(SD)
1	5.75	4.93	3.83	3.96	5.60	.	4.87(0.89)
2	5.35	4.68	4.89	5.05	.	.	4.99(0.26)
3	5.66	5.24	3.26	5.43	.	.	4.90(1.10)
4	4.68	6.82	6.92	6.80	7.22	6.85	6.55(0.92)
5	6.01	7.00	6.68	6.50	6.97	7.78	6.82(0.59)
6	5.87	5.51	5.47	6.56	6.83	.	6.05(0.62)
7	5.41	5.83	5.94	5.80	.	.	5.75(0.23)
8	6.27	6.33	5.43	4.21	.	.	5.56(0.99)
9	7.82	7.90	6.90	6.59	6.80	6.45	7.08(0.63)
10	7.96	8.12	7.75	7.18	7.55	.	7.71(0.37)
11	6.01	6.05	5.61	5.59	5.60	.	5.77(0.24)
mean(SD)	6.07(.99)	6.22(1.14)	5.70(1.36)	5.79(1.06)	6.70(.70)	7.03(.68)	6.10

<Table 7> Correlation Coefficient between Fatigue and Quality of Life

1st (n = 11)	2nd (n = 11)	3rd (n = 11)	4th (n = 11)	5th (n = 7)
-.74**	-.62*	-.84**	-.87**	-.78*

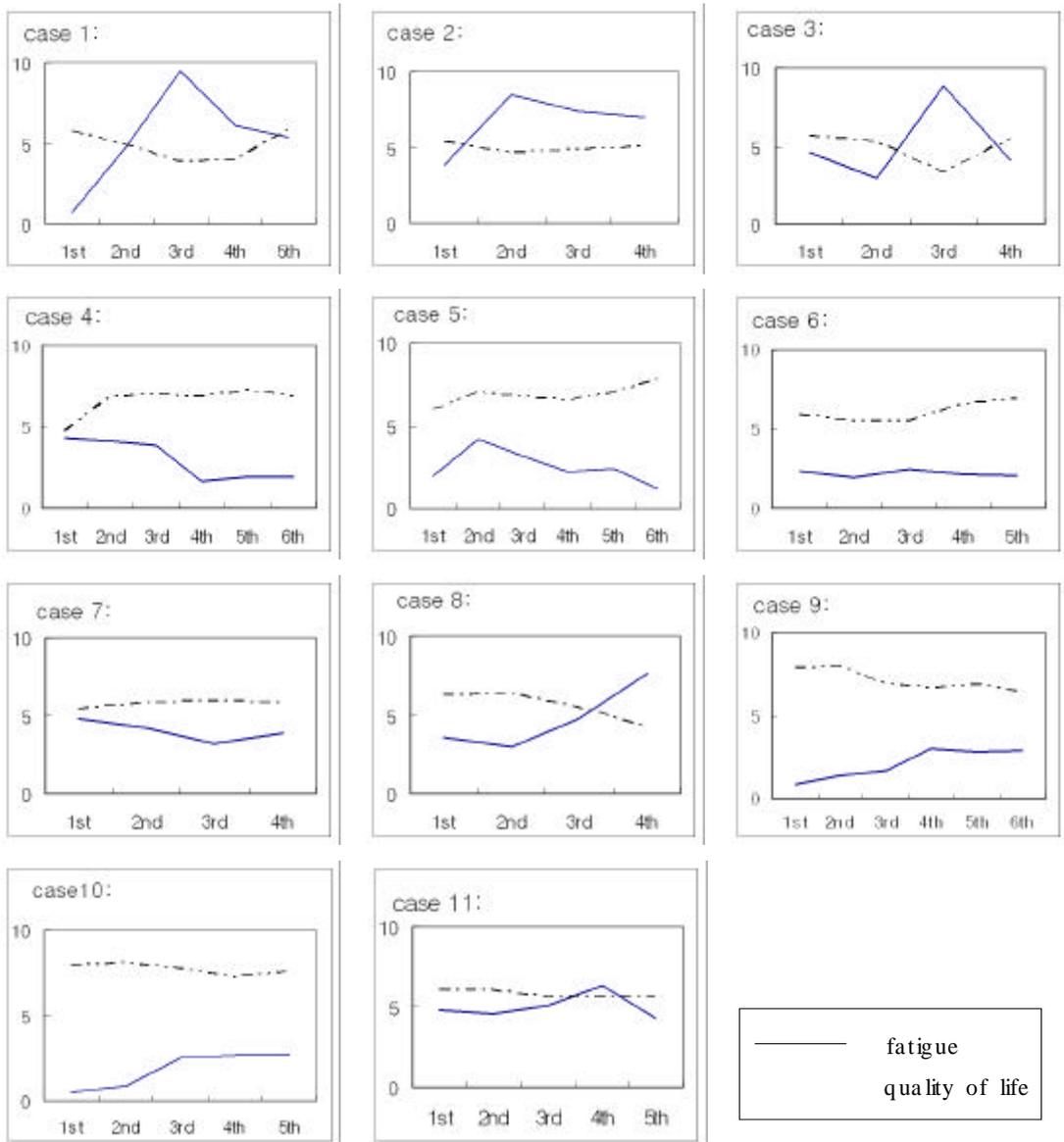
\*p<.05    \*\* p<.01

<Figure 1>  
3    4    가 5  
2 , 3  
가 4    6

2>

<Figure

. 1 , 2 , 3



<Figure 2> The Change Patterns of Fatigue and Quality of Life during Consecutive Chemotherapies

가 가 3-4 가  
가 가 가 5  
4, 5, 6, 7, ,  
6 7 Lee(2000) Song(1992)  
가 .  
8, 9, 10 가 Lee(2000) 5 가 1 ,  
11 2, 3 가 (F = 3.82,  
. p = .000) 1 가 2, 3, 5  
(F = 3.20, p = .00).  
Song(1992) 가  
(r = .23, p = .002) 가  
가 가 .  
가 11 가 3 가  
4 ,  
가 가 21 가 3 가 가  
가 6 가 가  
4 5 , 가  
8 . 4 5  
가 가 3 1 3 . 8  
가 가 3 3  
, 가 . 3 가 .  
가 가 가  
가 가 3 가 Kwon(1999) 180  
(Yang & Lee, 2000)  
(Kim, Jun & Kim, 1996; Yang, Kwon, & Kim,  
2001) 3 r = -.319 (p < .001), r = -.417  
, 가 가 , r = -.409 (p < .001)  
가 가 가 Lee(2000)  
가 r = -.71 (p = .00) 가  
10  
1.88-6.68, 2.02-4.78 .  
가 1.88-6.68  
4.87-7.71 . Lee(2000)  
가 5.45 (SD = 1.54),  
4.23 (SD = 1.27) Park(1999)  
3.86-5.64 , Choi(1999)

가 4.97(SD= 1.87), Kwon(1997) 가 3 (30%)  
 5.31(SD= 1.51) Jang(1993) 4 11  
 가 10 5.92 가 1 6  
 Park 가 4  
 가 5 6 가 3 4 가  
 4 11  
 가 6  
 가  
 가 1. 가  
 EMFC 가

References

2000 1 2001 4  
 6  
 21 4  
 11 가  
 Piper (1998) 'Revised  
 Piper Fatigue Scale' Lee(1999)  
 Cronbach's alpha = .88  
 (Kim, 1997; Kwon, 1990; Padilla et al., 1983)  
 Cronbach's alpha = .82  
 51.2 , 가  
 63.4% , 72.7% 가  
 45.5% (54.5%)  
 (45.4%) 1 3 가  
 5 91% 10  
 가 3  
 3  
 6 가  
 가 5 (50%) 가

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- Abstract -

### The Trajectory of Fatigue and Quality of Life in Stomach Cancer Patients Receiving Chemotherapy\*

Yang, Young-Hee \*\*

**Purpose:** This study aimed to identify the change patterns of fatigue and quality of life during consecutive chemotherapies and to determine the relationship of these two variables.

**Method:** Stomach cancer patients receiving chemotherapy were recruited from a university hospital in Seoul. Each chemotherapy, subjects were asked to respond to the questionnaires regarding their fatigue and quality of life. The number of subjects who completed 4 cycles and over was 11. Fatigue was measured with Lee's tool(1999). Quality of life was measured with a tool revised by the author based on Padilla et al(1983).

**Result:** Most patients were in 1st stage(5 patients) or 3rd stage(5 patients). Fatigue was revealed at its highest level in the 3rd or 4th chemotherapy and at its lowest level in the 1st or 6th chemotherapy. A quality of life appeared at its highest level in the 5th or 6th chemotherapy and the lowest level in 3rd or 4th chemotherapy.

**Conclusion:** Among 6 cycles of chemotherapy, in 3-4th chemotherapy the fatigue was the highest and the quality of life were the lowest. Many patients decided to stop treatment at the same period. Therefore we can recognize cancer patients receiving chemotherapy are in the highest risk at the time of the 3-4 th chemotherapy.

**Key words :** Stomach cancer patients,  
Chemotherapy, Fatigue,  
Quality of life

\* The present research was conducted by the research fund of Dankook University in 2000.

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