



Original Article

Change Patterns on Subjective Distress Level in Gynecological Postoperative Patients with Different Levels of State Anxiety

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Abstract

Purpose: A descriptive study was conducted to identify the change patterns on the level of perceived distress during the early postoperative period with regard to state anxiety in patients using patient controlled analgesia. **Method:** One hundred women who underwent elective hysterectomy procedures or other gynecologic surgeries completed a series of questionnaires measuring state anxiety, and subjective distress assessed by visual analog scales at 8, 24, & 48 hours postoperatively. Data were analyzed with frequencies, percentages, means, ANOVA, Repeated Measures ANCOVA, and Scheffè post test utilizing SPSS WIN 11.0. **Result:** There was a gradual decrease in levels of total distress and pain over the three points in time after surgery regardless the levels of state anxiety. However, women with higher levels of anxiety their pain curve rose at 48 hours post-op. In addition, over the first two points in time, women in the higher anxiety group showed higher levels of

distress than those in the lower anxiety group, but no such group differences were observed in the levels of pain, revealing higher pain levels only at 8 hours post-op in both groups. **Conclusion:** Irrespective of effective pain management modality, most postoperatively experienced distress in gynecological patients was derived from anxiety and pain. These findings have implications for pain management, especially in patients with emotionally charged surgeries like hysterectomy.

Key words : State anxiety, Subjective distress, Patient controlled analgesia

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(Kim & Chang, 1998; Kinnick & Leners, 1995; Thakar & Clarkson, 1997).
 TENS (Hamza, White, Ahmed, & Ghoname, 1999; Kim, 2000).
 PCA

PCA
 가 (Patient Controlled Analgesia; PCA) (Caumo et al., 2002; Dyck & Chung, 1991),
 PCA 가 (Ahn & Kim, 2004; Good et al., 2000).
 가 (Good et al., 2000),

가
 Han, Lee Lee(2000) PCA 8 , 24 , 48
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 가 (Kain, Sevarino, Alexander, Pincus, & Mayes, 2000).

3 (Thornton, McQueen, Rosser, Kneale, & Dixon, 1997) , 2 6 (Donoghue, Jackson, & Pagano, 2003)
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Johnson(1972) 0 - 10 Distress scale
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가 , , 10
PCA , 5
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Cronbach's α 8, 24, , t-test, ANOVA
 48 .75, .74, .70 , Scheffè test
 Cronbach's α .75, Cronbach's α .
 .67, .66 .
 Repeated Measures ANCOVA
 2)
 Spielberger(1972)가 Kim Shin
 (1978)
 10 10
 . 4 20 1.
 80 가
 가 Cronbach's α 49.0 (57.0%)
 .92 . , 88.0%가
 43.0% 가 ,
 4. (73.0%) 가 .
 SPSS WIN 11.0 8 (F=3.20, p=.02)
 (t=-2.69, p=.01) , 48
 (F=3.39, p=.02) .

<Table 1> General characteristics of subjects and differences of subjective distress scores at three points of time 8, 24 and 48hours after surgery (N=100)

Characteristics	f(%)	Subjective distress						
		8hrs M \pm SD	t/F (p)	24hrs M \pm SD	t/F (p)	48hrs M \pm SD	t/F (p)	
Age(years)**	≤ 30	6(6.0)	12.0 \pm 9.65	3.20	15.2 \pm 9.95	.67	14.3 \pm 7.89	2.14
	31~40	20(20.0)	11.5 \pm 7.98	(.02)* [†]	11.5 \pm 10.13	(.62)	7.7 \pm 6.39	(.08)
	41~50	34(34.0)	19.1 \pm 8.02		14.7 \pm 6.49		12.9 \pm 8.76	
	50~60	19(19.0)	15.2 \pm 6.75		12.0 \pm 9.45		10.5 \pm 6.64	
	≥ 61	21(21.0)	17.9 \pm 10.28		12.1 \pm 9.84		9.1 \pm 6.62	
Education	\leq Elementary School	37(37.0)	18.3 \pm 9.11	1.35	12.6 \pm 9.52	.73	9.7 \pm 6.48	3.39
	Middle School	20(20.0)	15.2 \pm 9.23	(.26)	13.7 \pm 8.05	(.54)	15.3 \pm 8.79	(.02)*
	High School	26(26.0)	15.6 \pm 7.71		11.5 \pm 9.07		9.9 \pm 7.08	
	\geq College	17(17.0)	13.5 \pm 8.79		15.4 \pm 10.21		8.6 \pm 7.83	
Marital status	Single	5(5.0)	17.0 \pm 10.46	1.13	16.6 \pm 7.54	.47	11.8 \pm 7.12	.17
	Married	88(88.0)	15.7 \pm 8.57	(.33)	12.9 \pm 8.75	(.62)	10.5 \pm 7.76	(.84)
	Others	7(7.0)	20.9 \pm 10.24		12.0 \pm 10.18		12.0 \pm 7.09	
Religion	None & Others	43(43.0)	17.4 \pm 9.23	1.57	12.8 \pm 8.65	.55	10.4 \pm 8.17	.03
	Christian	21(21.0)	14.7 \pm 6.87	(.20)	15.1 \pm 10.19	(.65)	10.9 \pm 7.56	(.99)
	Buddhist	24(24.0)	17.2 \pm 9.33		11.8 \pm 7.35		10.9 \pm 6.75	
	Catholic	12(12.0)	11.9 \pm 8.26		12.3 \pm 9.51		10.9 \pm 8.37	
Economic status	High	85(85.0)	15.2 \pm 8.48	-2.69	12.6 \pm 8.47	-.97	10.8 \pm 7.88	.27
	Low	15(15.0)	21.6 \pm 8.74	(.01)*	15.0 \pm 10.27	(.34)	10.2 \pm 6.24	(.79)
Occupation	Professionals	15(15.0)	15.1 \pm 9.55	.08	12.5 \pm 9.65	.21	10.2 \pm 8.55	.16
	Self-employed	7(7.0)	16.6 \pm 8.46	(.97)	12.1 \pm 8.80	(.89)	10.6 \pm 3.74	(.93)
	Housework or Laborer	73(73.0)	16.3 \pm 8.74		12.9 \pm 8.63		10.7 \pm 7.72	
	Students or Others	5(5.0)	16.6 \pm 10.06		15.8 \pm 10.06		12.8 \pm 9.23	

* p<.05 ** Mean \pm SD 48.9 \pm 13.44
[†] Scheffè post test group difference by age: 41~50 > 31~40

41-50 31-40 가 (21.6±8.74) 가 (15.2±8.48) 8.13 (15.6±9.21) (11.4±) <Table 2>. Scheffè TAH 24

2. 3. 60% 1) Repeated Measures ANCOVA (F=4.27, p=.04) (F=5.10 p=.03)가

37% 가 TAH가 31% 59%가 2 PCA (F=1.10 p=.30) <Table 3>. 32.0% PCA 30mℓ 가 (F=6.46, p=.01) (F=4.82, p=.03) 67.0%, 30mℓ 33.0% 8 24 (F=1.60, p=.21). <Figure> 8 (F=5.54, p=.00) 가 24 1> (t=-2.37, p=.02) 8 24 가 24 48

<Table 2> Operation related characteristics of subjects and differences of subjective distress scores at three points of time 8, 24, & 48hours after surgery (N=100)

		Subjective distress [§]							
		f(%)	8hrs M±SD	t/F (p)	24hrs M±SD	t/F (p)	48hrs M±SD	t/F (p)	
Previous operation history	Yes	62(62.0)	16.5±8.51	.44	11.4±8.13	-2.37	9.6±6.82	-1.94	
	No	38(38.0)	15.7±9.30	(.66)	15.6±9.21	(.02)*	12.6±8.56	(.06)	
Previous anesthesia experience	Yes	61(61.0)	16.8±9.23	.93	11.8±8.45	-1.79	9.9±7.28	-1.38	
	No	39(39.0)	15.1±8.05	(.36)	14.9±8.97	(.08)	12.0±8.07	(.17)	
Types of surgery**	TAH	31(31.0)	20.6±8.78	5.54	14.7±9.62	.59	11.9±8.20	.52	
	TVH	16(16.0)	17.6±6.80	(.00)*†	11.9±6.83	(.63)	9.4±6.96	(.67)	
	RAH	16(16.0)	13.5±8.04		12.5±9.61		9.6±5.35		
	Others	37(37.0)	12.9±8.39		12.2±8.48		10.6±8.34		
PCA knowledge	Completely known	32(32.0)	15.2±8.79	.90	13.9±7.91	1.87	10.4±7.10	2.40	
	Slightly known	42(42.0)	15.6±8.32	(.41)	11.5±8.89	(.16)	9.9±8.05	(.10)	
	Completely unknown	26(26.0)	18.1±9.51		15.8±9.37		15.6±6.77		
Analgesic consumption (mℓ)***§	≤30	67(67.0)	15.7±8.21	-.68	12.0±8.95	-1.55	9.9±7.08	-1.44	
	≥31	33(33.0)	17.0±9.93	(.50)	14.9±8.12	(.12)	12.2±8.54	(.15)	

* p<.05

** TAH: total abdominal hysterectomy

TVH: total vaginal hysterectomy

RAH: radical abdominal hysterectomy

Others: myomectomy, ovarian cystectomy, salpingo-oophorectomy

*** Analgesics: tarasyn & fentanyl

† Scheffè post test

group difference by types of surgery: TAH > Others

§ M±SD of total subjective distress scores: 16.2(±8.78), 12.9(±8.75), 10.9(±7.63) at 8, 24, & 48 hours post-op respectively

§ M±SD of total amounts of analgesic consumption: 26.4(±14.82)mℓ, 42.3(±17.02)mℓ, 44.4(±24.87)mℓ at 8, 24, & 48 hours after surgery respectively

<Table 3> Differences in subjective distress scores between groups with lower and higher levels of state anxiety at three points of time

State Anxiety [‡]	Subjective distress			Source of variation	F	p
	8 hrs	24 hrs	48 hrs			
	M ± SD	M ± SD	M ± SD	Time	4.27	.04*
Lower state anxiety G. (n=53)	13.4±7.76	12.1±8.49	9.7±7.73	Group	5.10	.03*
Higher state anxiety G. (n=47)	19.2±8.94	14.0±9.02	11.8±7.44	T * G	1.10	.30

* p<.05

[‡] M±SD of total state anxiety scores: 40.31(±10.64), 35.33(±7.95), 36.65(±7.67) at 8, 24, & 48 hours after surgery respectively

(F=.41, p=.52) (F=1.58, p=.21) , 8 24
 가 , (F=.05, p=.82) (F=5.70, p=.02)가
 <Table 4>. (F=.33, p=.57) (F=.00, p=.97).
 24 48
 (F=1.24, p=.27) (F=2.69, p=.10) 가
 (F=1.85, p=.18)

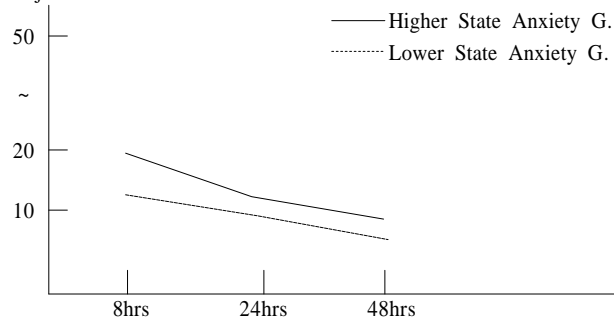
<Table 4> Differences in discomfort

	At 8 to 24 hrs F(p)	At 24 - 48 hrs F(p)
Time	6.46(.01)*	.41(.52)
Group	4.82(.03)*	1.58(.22)
T * G	1.60(.21)	.05(.82)

<Table 6> Differences by groups and by time

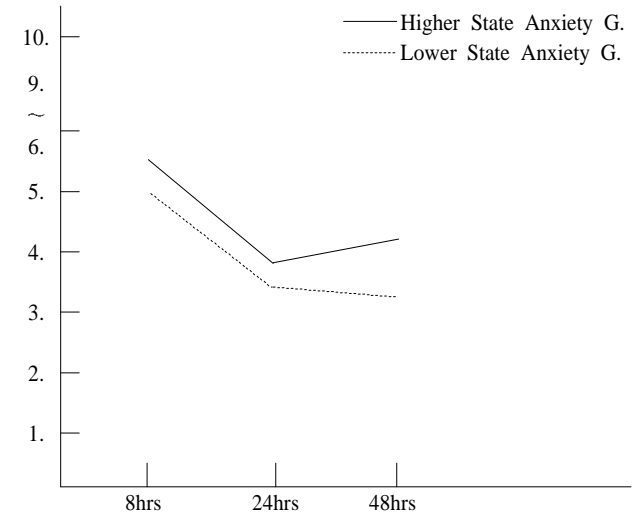
	At 8 to 24 hrs F(p)	At 24 to 48 hrs F(p)
Time	5.70(.02)*	1.24(.27)
Group	.33(.57)	2.69(.10)
T * G	.00(.97)	1.85(.18)

Subjective Distress Scores



<Figure 1> Subjective distress scores between groups with lower and higher levels of state anxiety at three points of time

Pain Scores



<Figure 2> Pain scores between groups with lower and higher levels of state anxiety at three points of time

2)

Repeated Measures ANCOVA

8, 24, 48

(F=4.83, p=.03) 가

(F=2.30, p=.13) ,

(F=1.26 p=.27)

<Table 5>.

<Table 5> Differences in pain scores between groups with lower and higher levels of state anxiety

State Anxiety [‡]	Pain [†]			Source of variation	F	p
	8 hrs	24 hrs	48 hrs			
	M ± SD	M ± SD	M ± SD	Time	4.83	.03*
Lower state anxiety G. (n=53)	5.06±2.52	3.68±2.38	3.47±2.39	Group	2.30	.13
Higher state anxiety G. (n=47)	5.60±2.25	4.06±2.08	4.53±2.09	T * G	1.26	.27

* p<.05

[†] a subscale in subjective distress

[‡] M±SD of total pain scores: 5.31(±2.40), 3.86(±2.24), 3.97(±2.31) at 8, 24, & 48 hours after surgery respectively

<Table 6>

<Figure 2>

8

24

48

Baldaro (2003)

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(Baldaro et al., 2003).

24

가

PCA

가

PCA

가

Ellerkmann (2003)

, Takahashi, Tanaka, Kinjo Sakumoto(2005)

8

, 48

가

PCA

41-50

31-40

가

가

2.

40

30

Kjerrulff (2003)

가

가

가

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24

8

24

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8

24

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24

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24

가

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2

PCA

Sung(1997), Kim Chang(1998)

가

Ahn Kim(2004)

24

48

가 .

8 24 가 2

8 10 가 가

8 가

가 (Suh & Hong, 2004), PCA 2 가 가

48 가 PCA 가

가 PCA 가

PCA (Gil, Ginsberg, Muir, Sykes, & Williams, 1990), PCA PCA

(Thomas et al., 1995), Good PCA 48 PCA

(2000) PCA 1-2 PCA

, 2 PCA

1 가

2 24 48 .

26ml, 24 42ml, 48 44ml가 8 가

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가 PCA 가 가 Seo Park(2002)

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