

## References



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## Appendixs



Horizontal count within 75 min after the injection 15 min

Group	count	Mean	Standard Diviation	Standard Error of Mean
NSS	32	1122.03	836.83	147.93
PEG400*	32	410.53	855.41	151.22
VPA100*	32	561.03	1003.36	177.37
VPA200*	32	316.56	478.84	84.65
HMV35*	32	228.09	272.96	48.25
HMV75*	32	406.13	644.94	114.01

\* p < 0.01 statistically significant from NSS

Sleeping time

Group	count	Mean	Standard Diviation	Standard Error of Mean
NSS	8	59.00	13.01	4.59
PEG400	8	85.13	22.84	8.07
VPA100 <sup>a,c,</sup>	9	108.70	27.28	8.63
VPA200 <sup>a,b</sup>	8	141.43	45.15	17.07
HMV35 <sup>c,d</sup>	10	84.20	36.23	11.46
HMV75 <sup>a,b</sup>	9	128.89	23.56	7.85

<sup>a</sup> p < 0.01 statistically significant from NSS

<sup>b</sup> p < 0.01 statistically significant from PEG

<sup>c</sup> p < 0.01 statistically significant from VPA200

<sup>d</sup> p < 0.05 statistically significant from HMV75

## Total amount of GABA within 180 min after injection

Group	count	Mean	Standard Diviation	Standard Error of Mean
NSS	36	61.77	26.63	4.86
PEG400	42	75.86	26.26	4.05
VPA200 <sup>a</sup>	41	103.41	44.83	7.00
VPA400 <sup>a</sup>	42	114.27	45.03	6.94
HMV75 <sup>b,c</sup>	45	79.35	33.67	5.69
HMV150 <sup>a,c</sup>	45	95.69	18.60	3.58

<sup>a</sup> p < 0.05 statistically significant from NSS and PEG400

<sup>b</sup> p < 0.05 statistically significant from VPA200

<sup>c</sup> p < 0.05 statistically significant from VPA400

## Amount of GABA at various time

## Time 1 (20 min after injection)

Group	count	Mean	Standard Diviation	Standard Error
NSS	4	77.51	4.37	2.19
PEG400	5	81.73	14.84	6.63
VPA200	5	95.75	17.58	7.86
VPA400	4	99.26	20.15	10.07
HMV75	5	74.79	30.41	15.20
HMV150	5	94.75	21.81	12.59

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Time 2 (40 min after injection)

Group	count	Mean	Standard Diviation	Standard Error
NSS	4	84.38	15.41	8.89
PEG400	5	76.65	23.21	10.28
VPA200	5	94.79	44.13	19.74
VPA400	5	103.28	18.67	8.35
HMV75	5	76.36	25.05	12.53
HMV150	5	96.22	13.40	7.73

Time 3 (60 min after injection)

Group	count	Mean	Standard Diviation	Standard Error of Mean
NSS	4	83.24	28.35	14.16
PEG400	5	85.93	32.25	14.42
VPA200	5	90.33	17.45	7.80
VPA400	5	118.07	18.69	8.36
HMV75	5	78.40	45.18	22.59
HMV150	5	87.27	16.24	9.38

Time 4 (80 min after injection)

Group	count	Mean	Standard Diviation	Standard Error of Mean
NSS	4	56.62	19.39	11.19
PEG400	5	75.65	20.34	9.09
VPA200 <sup>a</sup>	5	108.18	33.49	14.98
VPA400 <sup>a</sup>	5	113.00	35.78	16.00
HMV75 <sup>b,c</sup>	5	64.47	20.94	10.45
HMV150	5	101.54	23.32	13.46

<sup>a</sup> p < 0.05 statistically significant from NSS

<sup>b</sup> p < 0.05 statistically significant from VPA200

<sup>c</sup> p < 0.05 statistically significant from VPA400

## Time 5 (100 min after injection)

Group	count	Mean	Standard Diviation	Standard Error of Mean
NSS	4	58.25	33.82	16.91
PEG400	5	75.02	17.13	7.66
VPA200 <sup>a</sup>	4	122.06	61.97	27.72
VPA400 <sup>a</sup>	4	134.47	83.83	41.92
HMV75 <sup>b</sup>	5	69.24	26.79	13.39
HMV150	5	100.33	20.37	11.76

<sup>a</sup> p < 0.05 statistically significant from NSS

<sup>b</sup> p < 0.05 statistically significant from VPA400

## Time 6 (120 min after injection)

Group	count	Mean	Standard Diviation	Standard Error of Mean
NSS	4	47.16	30.79	17.78
PEG400	5	74.21	8.37	11.74
VPA200	5	97.08	43.61	19.50
VPA400 <sup>a</sup>	4	113.41	41.55	20.77
HMV75	5	79.46	34.01	17.01
HMV150	5	89.78	12.26	7.08

<sup>a</sup> p < 0.05 statistically significant from NSS

## Time 7 (140 min after injection)

Group	count	Mean	Standard Diviation	Standard Error of Mean
NSS	4	60.58	12.78	7.38
PEG400	4	73.39	25.23	12.61
VPA200	4	92.63	48.50	24.25
VPA400	4	111.59	43.00	19.23
HMV75	5	96.38	60.51	30.25
HMV150	5	84.82	13.04	7.53

Time 8 (160 min after injection)

Group	count	Mean	Standard Diviation	Standard Error of Mean
NSS	4	37.72	24.18	12.09
PEG400	4	53.57	43.88	21.94
VPA200	4	103.01	71.22	35.61
VPA400	5	122.92	85.77	38.36
HMV75	5	76.33	32.82	16.41
HMV150	5	112.27	34.76	20.08

Time 9 (180 min after injection)

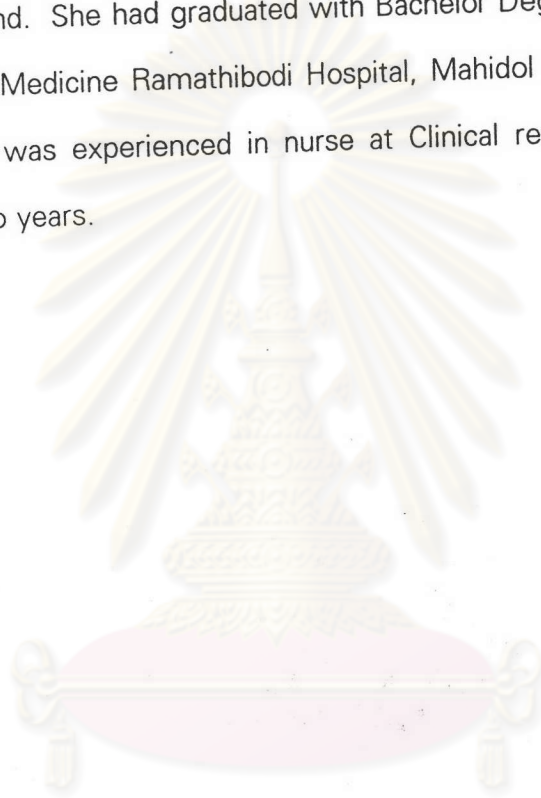
Group	count	Mean	Standard Diviation	Standard Error of Mean
NSS	4	40.03	32.51	22.99
PEG400	4	83.07	49.53	24.76
VPA200	4	138.73	79.56	45.93
VPA400	5	113.31	42.63	19.06
HMV75	5	105.21	31.58	18.24
HMV150	5	94.24	15.94	9.20

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## Curriculum vitae



Miss pornchulee Supatchaipisit was born on 25 th November, 1969, in Songklha, Thailand. She had graduated with Bachelor Degree in Nursing of Science from Faculty of Medicine Ramathibodi Hospital, Mahidol University in 1991. After graduation, she was experienced in nurse at Clinical research ward, Ramathibodi Hospital, for two years.



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