

Prospective Prescription Review System Promotes Safe Use of Analgesics, Improves Clinical Outcomes and Saves Medical Costs in Surgical Patients: Insights from Nanjing Drum Tower Hospital

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Supplementary Table 1. Comparison of mean dosage of analgesics prescriptions among inpatients before and after prescription review system implementation

	Before system implementation	After system implementation	P-value
Opioid dose (oral morphine equivalent) (mg)			
Number of patients (N)	3455	3038	
Mean $\pm$ SD	246.35 $\pm$ 2618.22	326.88 $\pm$ 781.18	0.085
Median (Q1, Q3)	60 (30, 270)	108 (30, 300)	<0.001
Flurbiprofen axetil injection dose (mg)			
Number of patients (N)	6799	8259	
Mean $\pm$ SD	900.86 $\pm$ 796.55	605.29 $\pm$ 541.02	<0.001
Median (Q1, Q3)	650 (450, 1200)	500 (250, 800)	<0.001
Parecoxib sodium for injection dose (mg)			
Number of patients (N)	5340	4189	
Mean $\pm$ SD	271.08 $\pm$ 248.06	261.9 $\pm$ 277.73	0.093
Median (Q1, Q3)	240 (40, 360)	200 (40, 400)	<0.001
Acetaminophen dose (mg)			
Number of patients (N)	1195	1375	
Mean $\pm$ SD	8363.28 $\pm$ 6453.1	7790.75 $\pm$ 8306.08	0.05
Median (Q1, Q3)	8000 (4000, 12000)	4000 (1000, 13000)	<0.001
Tramadol dose (mg)			
Number of patients (N)	1527	591	
Mean $\pm$ SD	503.57 $\pm$ 502.65	294.03 $\pm$ 501.31	<0.001
Median (Q1, Q3)	400 (100, 700)	100 (50, 300)	<0.001

Abbreviations: SD, standard deviation; Q1, upper quartile; Q3, lower quartile

Supplementary Table 2. Comparison of mean dosage of concomitant drugs prescribed post consumption of opioids and NSAIDS among inpatients before and after prescription review system implementation

	Before system implementation	After system implementation	P-value
Total days post opioids			
Antiemetics			
Number of patients (N)	1182	667	
Mean $\pm$ SD	2.78 $\pm$ 3.01	2.17 $\pm$ 2.25	<0.001
Median (Q1, Q3)	1 (1, 4)	1 (1, 2)	<0.001
Cathartics			
Number of patients (N)	1753	1178	
Mean $\pm$ SD	2.2 $\pm$ 2.42	1.78 $\pm$ 1.73	<0.001
Median (Q1, Q3)	1 (1, 3)	1 (1, 2)	<0.001
Total days post NSAIDS consumption			
Gastric antisecretory agent			
Number of patients (N)	6530	8226	
Mean $\pm$ SD	5.01 $\pm$ 5.05	5.13 $\pm$ 5.23	0.18
Median (Q1, Q3)	4 (2, 6)	4 (2, 7)	0.507

Abbreviations: SD, standard deviation; Q1, upper quartile; Q3, lower quartile

Supplementary Table 3. Comparison of total and mean cost of analgesics among inpatients before and after prescription review system implementation

	Before system implementation	After system implementation	P-value
Total cost of analgesics			
Number of patients (N)	12592	12585	
Mean $\pm$ SD	1482.13 $\pm$ 1207.59	1155.18 $\pm$ 1002.44	<0.001
Median (Q1, Q3)	1173.9 (795.27, 1823.74)	911.79 (524.44, 1458.17)	<0.001
Opioid			
Number of patients (N)	12346	12152	
Mean $\pm$ SD	512.26 $\pm$ 932.23	415.67 $\pm$ 735.63	<0.001
Median (Q1, Q3)	258.87 (223.1, 355.01)	275.44 (148.44, 371.11)	0.792
NSAIDs			
Number of patients (N)	11741	12009	
Mean $\pm$ SD	970.83 $\pm$ 875.87	731.46 $\pm$ 686.68	<0.001
Median (Q1, Q3)	757.11 (380, 1288.7)	560.25 (249, 982.03)	<0.001
Paracetamol			
Number of patients (N)	1193	1628	
Mean $\pm$ SD	745.92 $\pm$ 637.76	422.62 $\pm$ 567.45	<0.001
Median (Q1, Q3)	634.8 (317.4, 1058)	156.96 (2.82, 706.32)	<0.001
Tramadol			
Number of patients (N)	1758	777	
Mean $\pm$ SD	28.59 $\pm$ 21.55	18.7 $\pm$ 21.37	<0.001
Median (Q1, Q3)	22.55 (10.16, 41.3)	10.16 (8.26, 24.78)	<0.001

Abbreviations: SD, standard deviation; Q1, upper quartile; Q3, lower quartile

Supplementary Table 4. Comparison of mean costs of concomitant drugs prescribed post consumption of opioids and NSAIDS among inpatients before and after prescription review system implementation

	Before system implementation	After system implementation	P-value
Antiemetics			
Number of patients (N)	12238	12267	
Mean $\pm$ SD	229.22 $\pm$ 287.35	62.68 $\pm$ 56.94	<0.001
Median (Q1, Q3)	114.08 (57.04, 364.54)	42.8 (42.8, 82.8)	<0.001
Catharsis			
Number of patients (N)	5335	4551	
Mean $\pm$ SD	17.14 $\pm$ 59.78	37.9 $\pm$ 53.31	<0.001
Median (Q1, Q3)	3.68 (1.84, 13.07)	11.1 (5.55, 72.09)	<0.001
Gastric antisecretory agent			
Number of patients (N)	12114	11567	
Mean $\pm$ SD	724.52 $\pm$ 863.84	433.13 $\pm$ 683.75	<0.001
Median (Q1, Q3)	465.2 (237.6, 888.88)	234.35 (140.61, 476.75)	<0.001

Abbreviations: SD, standard deviation