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APPENDICES



APPENDIX A: Data Collection Form

Data Collection Form from OPD Card of Lerdsin Hospital

1. Patients' Characteristics

1. Mr. Mrs. Ms. Other..... First name/ Last Name.....

2. HN 3. Gender 1.Male 2.Female 4. Birth Date.....

5. Marital Status 1.Married 2.Single 3.Divorced 4.Widow

6. Nationality 1.Thai 2.Chinese 3.Other

7. Religion 1. Buddhism 2.Christ 3.Muslim 4.Other.....

8. Occupation

1.Company Officer 4.General Employee 7.Student 10.Other

2. Civil Servant 5.Sale Man 8.House Wife

3. State Enterprise 6.Farmer 9. Retired Civil Servant

9. Telephone Number Home..... Office.....

10. Payment Status

1.Social Security Scheme

9. Out of Pocket

2.Universal Coverage

10.Medical Welfare Scheme For Veterans

3.Private Insurance

11.Medical Welfare Scheme For Religious Leaders

4.Traffic Accident Insurance

12.Medical Welfare Scheme For Community Leaders

5.Civil Servant Medical Benefit Scheme 13.Medical Welfare Scheme For The Handicapped

6.State Enterprise Medical Benefit Scheme 14. Health Card Scheme

7.CSMBS (Civil Servant Son)

15.Other.....

8.CSMBS (Retired Civil Servant)

2. Prescribing Pattern

1. Date Visit

2. Physician Name

1.Thavath Prasatreutha

9.Narongchai Patharabunjerd

2.Suriyapong Soawapareut

10.Bunyatti Katemalakul

17.Surasuk Jitprapaikulsal

3.Prasert Leuponvanit

11.Vera SathiraUngura

18.Vallop Sumranvate

4.Vicharn Karnchanathavan

12.Pariyut Jearathanakom

19.Anan Sethapukdee

5.Chairote Eaupirojkit

13. Pirach Thawasethakul

20. Bunyaruk Visethipon

6.Somsak Leechavengvong

14.Sombut Kunakornsawat

21. Numchai Varodompan

7.Keatti Vithunchat

15. Charat Vinmun

22. Other.....

8.Charoanchai pakpeanpiroj

16.Chalee Sumethvanich

Table A.1: Drug name, Dosage regimen and Number of drugs prescribed by physicians

Drug Name	Dosage Regimen	Number
Specific COX II inhibitors		
<input type="checkbox"/> 1. Celecoxib 200 mg	<input type="checkbox"/> 1. 200 mg 1*1 OD <input type="checkbox"/> 3. 200 mg 2*1 OD
	<input type="checkbox"/> 2. 200 mg 1*2 PC <input type="checkbox"/> 4. 200 mg 2*2 PC <input type="checkbox"/> 5 Other.....	
<input type="checkbox"/> 2. Rofecoxib 25 mg	<input type="checkbox"/> 1. 25 mg 1*1 OD <input type="checkbox"/> 3. 25 mg 2*1 OD
	<input type="checkbox"/> 2. 25 mg 1*2 PC <input type="checkbox"/> 4. 25 mg 2*2 PC <input type="checkbox"/> 5. Other.....	
NSAIDs Type 1		
<input type="checkbox"/> 1. Diclofenac 25 mg	<input type="checkbox"/> 8. Ponstan [®] 250 mg	<input type="checkbox"/> 1. 1*1 OD
<input type="checkbox"/> 2. Voltaren [®] 25 mg	<input type="checkbox"/> 9. Sotilen [®] 20 mg	<input type="checkbox"/> 15. Nabumetone 500 mg
<input type="checkbox"/> 3. Mobic [®] 7.5 mg	<input type="checkbox"/> 10. Piroxicam 10 mg	<input type="checkbox"/> 16. Clinoril [®] 150 mg
<input type="checkbox"/> 4. Nidol [®] 100 mg	<input type="checkbox"/> 11. Brexin [®] 20 mg	<input type="checkbox"/> 17. Flogofenac Retard 100 mg
<input type="checkbox"/> 5. Indomethacin 25 mg	<input type="checkbox"/> 12. Naproxen 250 mg	<input type="checkbox"/> 18. Loxonin [®] 60 mg
<input type="checkbox"/> 6. Brufen [®] 200 mg	<input type="checkbox"/> 13. Synflex [®] 275 mg	<input type="checkbox"/> 19. Dolobid [®] 250 mg
<input type="checkbox"/> 7. Brufen [®] 400 mg	<input type="checkbox"/> 14. Tenoxicam 20 mg	<input type="checkbox"/> 20. Other.....
<input type="checkbox"/> 1. 1*1 OD		<input type="checkbox"/> 2. 1*2 PC
		<input type="checkbox"/> 3. 1*3 PC
		<input type="checkbox"/> 4. 1 tab q 6 hr
		<input type="checkbox"/> 5. 1 tab q 8 hr
		<input type="checkbox"/> 6 Other.....
NSAIDs Type 2		
<input type="checkbox"/> 1. Diclofenac 25 mg	<input type="checkbox"/> 8. Ponstan 250 mg	<input type="checkbox"/> 1. 1*1 OD
<input type="checkbox"/> 2. Voltaren [®] 25 mg	<input type="checkbox"/> 9. Sotilen [®] 20 mg	<input type="checkbox"/> 15. Nabumetone 500 mg
<input type="checkbox"/> 3. Mobic [®] 7.5 mg	<input type="checkbox"/> 10. Piroxicam 10 mg	<input type="checkbox"/> 16. Clinoril [®] 150 mg
<input type="checkbox"/> 4. Nidol [®] 100 mg	<input type="checkbox"/> 11. Brexin [®] 20 mg	<input type="checkbox"/> 17. Flogofenac Retard 100 mg
<input type="checkbox"/> 5. Indomethacin 25 mg	<input type="checkbox"/> 12. Naproxen 250 mg	<input type="checkbox"/> 18. Loxonin [®] 60 mg
<input type="checkbox"/> 6. Brufen [®] 200 mg	<input type="checkbox"/> 13. Synflex [®] 275 mg	<input type="checkbox"/> 19. Dolobid [®] 250 mg
<input type="checkbox"/> 7. Brufen [®] 400 mg	<input type="checkbox"/> 14. Tenoxicam 20 mg	<input type="checkbox"/> 20. Other.....
<input type="checkbox"/> 1. 1*1 OD		<input type="checkbox"/> 2. 1*2 PC
		<input type="checkbox"/> 3. 1*3 PC
		<input type="checkbox"/> 4. 1 tab q 6 hr
		<input type="checkbox"/> 5. 1 tab q 8 hr
		<input type="checkbox"/> 6 Other.....
Analgesic/ Antiinflammatory Drugs Type 1		
<input type="checkbox"/> 1. Idarac [®] 200 mg	<input type="checkbox"/> 4. Muscol [®] 30 & 500 mg	<input type="checkbox"/> 7. Mydocalm [®] 50 mg
<input type="checkbox"/> 2. Paracetamol 500 mg	<input type="checkbox"/> 5. Norgesic [®] 35 & 450 mg	<input type="checkbox"/> 8. Myonal [®] 50 mg
<input type="checkbox"/> 3. Bamolin [®] 35 & 450 mg	<input type="checkbox"/> 6. Parafon Forte [®]	<input type="checkbox"/> 9. Other.....
		<input type="checkbox"/> 1. 1*1 OD
		<input type="checkbox"/> 2. 1*2 PC
		<input type="checkbox"/> 3. 1*3 PC
		<input type="checkbox"/> 4. Other.....
Analgesic/ Antiinflammatory Drugs Type 2		
<input type="checkbox"/> 1. Idarac [®] 200 mg	<input type="checkbox"/> 4. Muscol [®] 30 & 500 mg	<input type="checkbox"/> 7. Mydocalm [®] 50 mg
<input type="checkbox"/> 2. Paracetamol 500 mg	<input type="checkbox"/> 5. Norgesic [®] 35 & 450 mg	<input type="checkbox"/> 8. Myonal [®] 50 mg
<input type="checkbox"/> 3. Bamolin [®] 35 & 450 mg	<input type="checkbox"/> 6. Parafon Forte [®]	<input type="checkbox"/> 9. Other.....
		<input type="checkbox"/> 1. 1*1 OD
		<input type="checkbox"/> 2. 1*2 PC
		<input type="checkbox"/> 3. 1*3 PC
		<input type="checkbox"/> 4. Other.....
Gastroprotective Drug		
<input type="checkbox"/> 1. Ranitidine 150 mg	<input type="checkbox"/> 4. Lansoprazole 30 mg	<input type="checkbox"/> 7. Antacil [®]
<input type="checkbox"/> 2. Nizatidine 150 mg	<input type="checkbox"/> 5. Cytotec [®] 200 µg	<input type="checkbox"/> 8. Ulsanic [®]
<input type="checkbox"/> 3. Omeprazole 20 mg	<input type="checkbox"/> 6. Kremil-s [®]	<input type="checkbox"/> 9 Other.....
		<input type="checkbox"/> 1. 1*1 OD
		<input type="checkbox"/> 2. 1*2 PC
		<input type="checkbox"/> 3. 1*3 PC
		<input type="checkbox"/> 4 Other.....
Other Drugs		
.....
.....

3. Diagnosis

1. Present Illness (PH)

- | | | |
|--|---|---|
| <input type="checkbox"/> 1. Osteoarthritis | <input type="checkbox"/> 10. Neck Sprain | <input type="checkbox"/> 19. Trigger Thumb Pain |
| <input type="checkbox"/> 2. Rheumatoid Arthritis | <input type="checkbox"/> 11. Back sprain | <input type="checkbox"/> 20. Tendinitis |
| <input type="checkbox"/> 3. Spondylolisthesis | <input type="checkbox"/> 12. Leg Pain | <input type="checkbox"/> 21. Soft Tissue Injury |
| <input type="checkbox"/> 4. Spondyloarthropathy | <input type="checkbox"/> 13. Muscle Strain | <input type="checkbox"/> 22. Discitis |
| <input type="checkbox"/> 5. Spondylosis | <input type="checkbox"/> 14. Low Back Pain | <input type="checkbox"/> 23. Bursitis |
| <input type="checkbox"/> 6. Spinal Stenosis | <input type="checkbox"/> 15. Ankle Pain | <input type="checkbox"/> 24. Shoulder Sprain / Impairment |
| <input type="checkbox"/> 7. Myalgia | <input type="checkbox"/> 16. Knee Injury / Pain | <input type="checkbox"/> 25. Tennis Elbow |
| <input type="checkbox"/> 8. Arthralgia | <input type="checkbox"/> 17. Chondritis | <input type="checkbox"/> 26. Gouty Arthritis |
| <input type="checkbox"/> 9. Metatarsal Pain | <input type="checkbox"/> 18. Fasciitis | <input type="checkbox"/> 27. Sciatica |
| | | <input type="checkbox"/> 28. Other..... |

2. Chief Complaint (CC)

- | | | | |
|---------------------------------------|---|---|--|
| <input type="checkbox"/> 1. Back pain | <input type="checkbox"/> 4. Shoulder Pain | <input type="checkbox"/> 7. Wrist Pain | <input type="checkbox"/> 10 Other..... |
| <input type="checkbox"/> 2. Neck Pain | <input type="checkbox"/> 5. Ankle Pain | <input type="checkbox"/> 8. Metacarpal Pain | |
| <input type="checkbox"/> 3. Leg Pain | <input type="checkbox"/> 6. Knee Pain | <input type="checkbox"/> 9. Metatarsal Pain | |

4. Diagnosis of Gastrointestinal History By Physician

1. Do physician diagnose gastrointestinal clinical symptoms? 1. Yes 2. No

1.1 If physicians diagnose gastrointestinal history, how physician diagnose?

- | | | | |
|--|--|--------------------------------------|---------------------------------------|
| <input type="checkbox"/> 1. Gastroduodenal Ulcer | <input type="checkbox"/> 4. Abdominal Pain | <input type="checkbox"/> 7. Belching | <input type="checkbox"/> 10. Nausea |
| <input type="checkbox"/> 2. Gastrointestinal Bleeding | <input type="checkbox"/> 5. Dyspepsia | <input type="checkbox"/> 8. Bloating | <input type="checkbox"/> 11. Vomiting |
| <input type="checkbox"/> 3. Gastroduodenal Perforation | <input type="checkbox"/> 6. Heartburn | <input type="checkbox"/> 9. GERD | <input type="checkbox"/> 12. |

1. If physicians do not diagnose gastrointestinal history, how dose chief complaint of gastrointestinal symptom of patients?

- | | | |
|--|---------------------------------------|---|
| <input type="checkbox"/> 1. Dyspepsia | <input type="checkbox"/> 4. Nausea | <input type="checkbox"/> 7. GERD |
| <input type="checkbox"/> 2. Abdominal Pain | <input type="checkbox"/> 5. Vomiting | <input type="checkbox"/> 8. Darken Stool |
| <input type="checkbox"/> 3. Bloating | <input type="checkbox"/> 6. Heartburn | <input type="checkbox"/> 9. No Chief Complaints |
| | | <input type="checkbox"/> 10. Other..... |

2. Before patients visit hospital, did physician prescribed NSAIDs or specific COX II inhibitor?

- | | | | |
|---------------------------------|--------------------------------|--|--|
| <input type="checkbox"/> 1. Yes | <input type="checkbox"/> 2. No | <input type="checkbox"/> 3. NSAIDs First | <input type="checkbox"/> 4. Specific COX II Inhibitors First |
|---------------------------------|--------------------------------|--|--|

2.1 If physicians prescribed NSAIDs or specific COX II Inhibitor, to specify drug name, dosage regimen, number of tablets and date visit

Name..... Dosage RegimenNumberDate Visit.....

Name..... Dosage RegimenNumberDate Visit.....

2.2 If physicians prescribed NSAIDs or specific COX II inhibitor, have patients chief complaint on next visit?

1. Yes
2. No

5. Classification patients that low risk or high risk group

1. Are age of patients more than or equal 65 years? 1. Yes 2. No
2. Previous clinical history of Gastrointestinal Symptom of patients
- | | | |
|--|---------------------------------------|--|
| <input type="checkbox"/> 1. Gastroduodenal Ulcer | <input type="checkbox"/> 5. Dyspepsia | <input type="checkbox"/> 9. GERD |
| <input type="checkbox"/> 2. Gastrointestinal Bleeding | <input type="checkbox"/> 6. Heartburn | <input type="checkbox"/> 10. Nausea |
| <input type="checkbox"/> 3. Gastroduodenal Perforation | <input type="checkbox"/> 7. Belching | <input type="checkbox"/> 11. Vomiting |
| <input type="checkbox"/> 4. Abdominal Pain | <input type="checkbox"/> 8. Bloating | <input type="checkbox"/> 12. Other..... |
| | | <input type="checkbox"/> 13. No GI Symptom |
3. Present time, patients receive concomitant use of medication in the following
1. Steroid Dosage Regimen.....Number Date Visit
2. Anticoagulant Dosage Regimen.....Number Date Visit
3. Low dose Aspirin Dosage Regimen.....NumberDate Visit
4. Antidiabetes Drugs
- Dosage Regimen.....Number Date Visit
- Dosage Regimen.....Number Date Visit
5. Cardiovascular Drugs
- Dosage Regimen.....Number Date Visit
- Dosage Regimen.....Number Date Visit
6. Antihypertensive Drugs
- Dosage Regimen.....Number Date Visit
- Dosage Regimen.....Number Date Visit
7. Other Drugs
- Dosage Regimen.....Number Date Visit
- Dosage Regimen.....Number Date Visit
8. Did not have above drugs
4. Patients had Serious Co-morbidity in the following
- | | |
|--|---|
| <input type="checkbox"/> 1. Cardiovascular Disease | |
| <input type="checkbox"/> 2. Diabetes | <input type="checkbox"/> 5. Hepatic Impairment |
| <input type="checkbox"/> 3. Hypertension | <input type="checkbox"/> 6. Did not have co-morbidity |
| <input type="checkbox"/> 4. Renal Impairment | <input type="checkbox"/> 7. Other..... |
5. Did patients received prolonged use of recommendation maximum standard doses of NSAIDs?
1. Yes 2. No
6. Are patients high risk or low risk group?
1. High Risk 2. Low Risk

Appendix B : Percentage of Specific COX II Inhibitors and NSAIDs Use in all patients and Number of Sample for Planning and Number of Sample for Proportionate Sample

Table B.1: Percentage of Specific COX II inhibitors and NSAIDs Use in all patients and Number of Sample for Planning and Number of Sample fro Proportionate Sample

Drug Name	Planning					Proportionate Sample				
	November		December			November		December		
	Number of All Patients	%	Number of Sample	Number of All Patients	%	Number of Sample	Number of Sample	%	Number of Sample	%
Rofecoxib	428	67.94	389	389	63.6	172	91	34.87	94	36.43
Celecoxib	202	32.06	223	223	36.4	99	170	65.13	164	63.57
Total	630	100	612	612	100	271	261	100	258	100
Diclofenac	708	41.99	612	612	39.66	107	116	38.93	106	35.45
Mobic®	234	13.88	244	244	15.81	43	41	13.76	44	14.72
Synflex®	125	7.41	87	87	5.64	15	20	6.71	17	5.69
Voltaren®	120	7.12	100	100	6.48	18	23	7.72	20	6.69
Nidol®	114	6.76	162	162	10.50	28	21	7.05	30	10.03
Indomethacin	81	4.81	62	62	4.02	11	16	5.37	13	4.35
Nabumetone	55	3.26	50	50	3.24	9	7	2.35	11	3.68
Piroxicam	46	2.73	46	46	2.98	8	10	3.36	11	3.68
Brexin®	37	2.19	35	35	2.27	6	8	2.68	10	3.34
Ibuprofen (400)	34	2.02	45	45	2.92	8	9	3.02	12	4.01

Table B.1: (Cont.)

Drug Name	Planning					Proportionate Sample				
	November		December			November		December		
	Number of All Patients	%	Number of Sample	Number of All Patients	%	Number of Sample	Number of Sample	%	Number of Sample	%
Clinoril®	33	1.96	16	16	1.04	3	5	1.68	5	1.67
Tilcotil®	28	1.66	25	25	1.62	4	7	2.35	4	1.34
Sotilen®	26	1.54	24	24	1.56	4	4	1.34	6	2.01
Ibuprofen (200)	13	0.77	10	10	0.65	2	3	1.01	2	0.67
Flogofenac Retard	8	0.47	0	0	0.00	0	2	0.67	0	0
Naproxen	7	0.42	10	10	0.65	2	2	0.67	3	1.00
Loxonin®	7	0.41	6	6	0.39	1	1	0.34	2	0.67
Dolobid®	6	0.36	2	2	0.13	1	2	0.67	0	0
Ponstan® (250)	4	0.24	7	7	0.45	1	1	0.34	3	1.00
Total	1,686	100	1,543	1,543	100	271	298	100	299	100



APPENDIX C: Additional cost of NSAIDs prescriptions compared with NSAIDs plus Gastroprotective Drugs prescriptions for actual practice

1. Additional cost of NSAIDs prescriptions compared with NSAIDs plus Gastroprotective Drugs prescriptions for actual practice

In actual practice, total cost of gastroprotective agents (GPAs) use in high risk was 27,397.62Baht and average of prescription was 210.75 Baht. The result of total cost and average cost per prescription of GPAs was displayed in Table C.1.

Table C.1 Total Cost and Average Cost Per Prescription of Gastroprotective Drugs in Low Risk and High Risk Group.

Drug name	Low Risk Group			High Risk Group		
	N	Total Cost (Baht)	Average Cost per Prescription (Baht)	N	Total Cost (Baht)	Average Cost per Prescription (Baht)
Lansoprazole	23	23,326.00	1,014.17	14	22,256.00	1,589.71
Cytotec [®]	1	627.60	627.60	0	0	0
Selbex [®]	5	2,329.00	465.80	1	308.25	308.25
Omeprazole	47	3,755.00	79.89	22	2,337.50	106.25
Kremil-S [®]	9	480.00	53.33	2	75.00	37.50
Disflatyl Forte	7	192.00	27.43	3	153.60	51.20
M.Carminative [®]	1	17.02	17.02	1	17.02	17.02
Ranitidine	226	3,766.00	16.66	82	2,003.05	24.43
Antacil [®]	4	55.20	13.80	0	0	0
Motilium [®]	1	10.20	10.20	1	20.40	20.40
Flatulant [®]	1	6.60	6.60	0	0	0
Metoclopramide	2	4.50	2.25	0	0	0
Magesto [®]	0	0	0	4	226.80	56.70
Nizatidine	0	0	0	0	0	0
Ulsanic [®]	0	0	0	0	0	0
Total	325	34,569.12	106.37	123	27,397.62	222.74

Average duration of gastroprotective drugs was 16.35 days. The result of average duration of gastroprotective drugs are presented in Table C.2. Average cost per day of gastroprotective drugs in high risk group were 13.62 Baht. The result of average cost per day was given in Table C.3.

Table C.2: Minimum, Maximum and Mean Duration of Gastroprotective Drugs

Drug Name	N	Minimum Duration (Days)	Maximum Duration (Days)	Mean Duration (Days)
Magesto [®]	4	30	45	33.75
Cytotec [®]	1	30	30	30.00
Omeprazole	69	7	90	28.67
Kremil-S [®]	11	15	120	28.00
Lansoprazole	37	10	80	25.45
Antacil [®]	4	13.33	30	23.33
Ranitidine	308	7	120	20.86
Disflatyl Forte	10	5	30	18.58
Selbex [®]	6	10	60	14.58
Flatulant [®]	1	10	10	10.00
Motilium [®]	2	5	10	7.50
Metoclopramide	1	2.5	2.5	2.50
M.Carminative [®]	2	2	2	2.00
Nizatidine	0	0	0	0.00
Ulsanic [®]	0	0	0	0.00
Total	448			16.35

Table C.3: Average Cost Per Day of Gastroprotective Drugs in Low risk and High Risk Group

Cost Per Day (Baht/Day)	Low risk Group	High Risk Group
Gastroprotective Drugs	6.51	13.62

Average cost per day of NSAIDs plus GPAs in high risk was 24.66 Baht. Difference in average cost per day between NSAIDs plus GPAs versus NSAIDs was 13.45 Baht. Number of high risk patients prescribed NSAIDs was 113 patients, difference in average cost per day in 113 patients was 1,519.85 Baht. Average duration that high risk patients prescribed NSAIDs was 21.36 days, additional cost that high risk patients prescribed NSAIDs plus GPAs compared with NSAIDs was 32,464.00 Baht, calculated by the following formula:

$$\begin{aligned} \text{Total Additional Cost}_{\text{NSAIDs+GPAs}} &= (24.66-11.21)*113 \text{ patients} *21.36 \text{ Days} \\ &= 32,464.00 \text{ Baht} \end{aligned}$$

During this study, number of high risk patients prescribed NSAIDs 614 patients, additional cost that high risk patients prescribed NSAIDs plus GPAs versus NSAIDs was 176,397.29 Baht, calculated by the following formula:

$$\begin{aligned} \text{Total additional Cost}_{\text{NSAIDs+GPAs 2 months}} &= (24.66-11.21)*614 \text{ patients} *21.36 \text{ Days} \\ &= 176,397.29 \text{ Baht} \end{aligned}$$

In one year, additional cost that high risk patients prescribed NSAIDs plus GPAs versus NSAIDs was 1,058,383.74 Baht, calculated by the following formula:

$$\begin{aligned} \text{Total additional Cost}_{\text{NSAIDs+GPAs 1 year}} &= 176,397.29 \text{ Baht} * 6 \\ &= 1,058,383.74 \text{ Baht} \end{aligned}$$

The result of total additional cost of NSAIDs plus GPAs in actual practice was presented in Table C.4.

Table C.4: Total Estimated Additional Cost of NSAIDs plus Gastroprotective Drugs compared with NSAIDs in High Risk Group of Actual Practice

Study	Actual Practice
	NSAIDs plus Gastroprotective Drugs (Baht)
Sample	32,464.00
2 months	176,397.29
1 Year	1,058,383.74

2. Additional cost of NSAIDs prescriptions compared with NSAIDs plus Gastroprotective Drugs for Standard Practice

Drug consumption volume of gastroprotective drugs in fiscal year 2002 from pharmacy department was presented in Table C.5.

Table C.5: Drug Consumption Volume of Gastroprotective Drugs in Fiscal Year 2002.

Drugs Name	Drug Consumption Volume (Tablets or Bottles)	%
Ranitidine	1,150,000	49.22
Disflatyl Forte [®]	312,500	13.37
Kremil-S [®]	230,000	9.84
Motilium [®]	141,000	6.03
Magesto [®]	125,000	5.35
Antacil [®]	110,000	4.71
Omeprazole	91,000	3.89
Flatulant [®]	55,000	2.35
Metoclopramide	33,000	1.41
Lansoprazole	21,990	0.94
Cytotec [®]	20,020	0.86
Ulsanic [®]	20,000	0.86
Nizatidine	15,540	0.67
Selbex [®]	10,000	0.43
M.Carminative [®] 180 ml	1,600	0.07
Total	2,336,650	100

First ranked of consumption volume of gastroprotective drugs in fiscal year 2002 was ranitidine (49.2%).

Average cost per day was Defined Daily Dose (DDD) multiplied by acquisition cost. Average cost per day was 0.70 Baht, calculated by the following formula:

$$\begin{aligned} \text{Average Cost per Day}_{\text{Ranitidine}} &= \text{Defined Daily Doses} * \text{Acquisition Cost} \\ &= 2 * 0.35 \text{ Baht} \\ &= 0.70 \text{ Baht} \end{aligned}$$

Acquisition cost of gastroprotective drugs in fiscal year 2002 from pharmacy department is given in Table C.6.

Table C.6: Acquisition Cost of Gastroprotective Drugs in fiscal year 2002

Drug Name	Acquisition Cost (Baht)
Lansoprazole	42.80
Nizatidine	16.43
Cytotec [®]	10.46
M.Carminative [®] 180 ml	8.51
Selbex [®]	6.85
Omeprazole	2.50
Ulsanic [®]	0.74
Motilium [®]	0.68
Disflatyl Forte [®]	0.64
Magesto [®]	0.56
Kremil-S [®]	0.50
Ranitidine	0.35
Antacil [®]	0.24
Flatulant [®]	0.22
Metoclopramide	0.15

In standard treatment, average cost per day of diclofenac plus ranitidine was 0.85 baht, voltaren[®] plus ranitidine was 14.26 Baht, and ibuprofen 400 mg plus ranitidine was 2.08 Baht.

Average cost per day of NSAIDs in high risk group for actual practice was 11.21 Baht. (See Table 4.10)

Difference average cost per day of patients prescribed NSAIDs plus ranitidine in standard treatment versus NSAIDs in actual practice was -10.36 Baht, 3.05 Baht and -9.13 Baht of diclofenac, voltaren[®] and ibuprofen 400 mg, respectively.

Average duration in high risk patient of receiving NSAIDs was 21.36 day (See Table 4.4). Number of patients prescribed NSAIDs was 113 patients in high risk for actual practice. Since cost per day of NSAIDs plus ranitidine were lower than NSAIDs, we reported the results in term of cost saving. Additional cost of voltaren[®] plus ranitidine was 7,361.72 Baht. Cost saving of patients prescribed diclofenac plus ranitidine was 25,005.72 Baht, and ibuprofen 400 mg plus ranitidine was 22,036.90 Baht, as shown in the following calculation:

$$\begin{aligned} \text{Cost Saving Diclofenac plus Ranitidine} &= (11.21-0.85)*113 \text{ Patients}*21.36 \text{ Day} \\ &= 25,005.72 \text{ Baht} \\ \text{Additional cost Voltaren}^{\text{®}} \text{ plus Ranitidine} &= (14.26-11.21)*113 \text{ Patients}*21.36 \text{ Day} \\ &= 7,361.72 \text{ Baht} \\ \text{Cost Saving Ibuprofen plus Ranitidine} &= (11.21-2.08) * 113 \text{ Patients}*21.36 \text{ Day} \\ &= 22,036.90 \text{ Baht} \end{aligned}$$

During this study, number of high risk patients receiving NSAIDs was 614 patients. Cost saving of diclofenac plus ranitidine was 135,871.81 Baht and ibuprofen 400 mg plus ranitidine was 119,740.32 Baht. Additional cost of voltaren[®] plus ranitidine was 40,000.87 Baht, as shown in the following calculation:

$$\begin{aligned} \text{Cost Saving Diclofenac plus Ranitidine} &= (11.21-0.85)*614 \text{ Patients}*21.36 \text{ Day} \\ &= 135,871.81 \text{ Baht} \\ \text{Additional cost Voltaren}^{\text{®}} \text{ plus Ranitidine} &= (14.26-11.21)* 614 \text{ Patients}*21.36 \text{ Day} \\ &= 40,000.87 \text{ Baht} \\ \text{Cost Saving Ibuprofen plus Ranitidine} &= (11.21-2.08) * 614 \text{ Patients}*21.36 \text{ Day} \\ &= 119,740.32 \text{ Baht} \end{aligned}$$

For one year, total additional cost of voltaren[®] plus ranitidine was 240,005.22 Baht. Cost saving of diclofenac plus ranitidine was 815,230.86 Baht, and ibuprofen 400 mg plus ranitidine was 718,441.92 Baht.

The result of total additional cost per year for high risk patients prescribed NSAIDs versus specific COX II Inhibitor and NSAIDs plus gastroprotective drugs in actual practice and NSAIDs plus ranitidine in standard treatment are shown in Table C.7.

The results of cost saving of diclofenac plus ranitidine and voltaren[®] plus ranitidine were presented in Table C.8.

Table C.7: Total Additional Cost Per Year for Patients received NSAIDs in high risk group versus Specific COX II Inhibitor and NSAIDs plus Gastroprotective Drugs in Actual Practice and NSAIDs plus Ranitidine in Standard Treatment

Type	Drugs	Total Additional Cost (Baht /Year)
Actual Practice	Celecoxib	1,536,033.48
	Rofecoxib	1,824,039.78
	NSAIDs plus Gastroprotective Drugs	1,058,383.74
Standard Treatment	Voltaren [®] Plus Ranitidine	240,005.22

Table C.8: Cost Saving of Diclofenac Plus Ranitidine and Voltaren[®] Plus Ranitidine in Standard Treatment

Drugs	Total Cost Saving (Baht /Year)
Diclofenac Plus Ranitidine	815,230.86
Ibuprofen 400 mg Plus Ranitidine	718,441.92

BIOGRAPHY



Miss Jitsuda Phosri was born September 27, 1974 at Prachuap Kiri Khan Province, Thailand. I graduated from Bachelor of Sciences in Pharmaceutical Sciences, Chiang Mai University in 1998. I was a graduate student in Master of Sciences in Social and Administrative Pharmacy at Chulalongkorn University in 2001. I worked at Prachuap Kiri Khan Hospital in 2000 to present.