

CHAPTER 9

RESULTS OF STUDY 2

This chapter presents results obtained from the survey of SCM study and is separated into:

- 1) The average practice of pharmacists
- 2) The influence of gender and SES appearance of clients on pharmacist behaviors

1. The average practice of pharmacists

Of 32 study pharmacists, 18 were female and 27 were owners of drugstores. During the 128 encounters, the most common history items taken were drug allergy (83.6%), cough (57.0%), rhinorrhea (57.0%), fever (52.3%) and nasal congestion (42.2%) (Table 21). None of the female clients was asked about pregnancy status. Other mimicking conditions, such as allergic rhinitis, were not ruled out since seasonality and chronicity were rarely asked. Concurrently taken drugs was asked only once.

Table 21 Frequency of practice patterns of pharmacists in line with the URI treatment guideline for community pharmacy practice

Item	Score	Frequency (%) ^a
History taking:		
(maximum score = 11 for male, 12 for female)		
Age of patient (child or adult)	1	52 (40.6%)
Duration of disease (or onset of disease)	1	52 (40.6%)

Table 21 (continued)

Item	Score	Frequency (%)^a
History taking: (continued)		
(maximum score = 11 for male, 12 for female)		
Symptoms of disease:		
Fever (yes/no)	1	67 (52.3%)
Sneezing (yes/no)	1	50 (39.1%)
Nasal congestion (yes/no)	1	54 (42.2%)
Rhinorrhea	1	
-Yes/No (0.25 point)		73 (57.0%)
-Color (0.25 point)		16 (12.5%)
-Thickness (0.25 point)		6 (4.7%)
-Chronicity (0.25 point)		0 (0.0%)
Sore throat		
-Severity (or dysphagia)	1	42 (32.8%)
Cough (yes/no)	1	73 (57.0%)
Chronic diseases / previous history (yes/no)	1	13 (10.2%)
Medication currently taking (yes/no)	1	1 (0.8%)
History of drug allergy (yes/no)	1	107 (83.6%)
Being pregnant or breast-feeding for female only (yes/no)	1	0 (0.0%)
Advice giving:		
Rest	1	19 (14.8%)
Maintaining adequate fluid intake	1	21 (16.4%)

Table 21 (continued)

Item	Score	Frequency (%)^a
Antibiotic dispensing: Do not dispense antibiotics.		
Antibiotic dispensing		112 (87.5%)
No antibiotic dispensing		16 (12.5%)

^a Percent was based on 128 drugstore encounters.

Only ten out of 32 pharmacists had a mean history taking score higher than 5 (mean±SD = 4.2±2.2 for all pharmacists). Sixteen pharmacists never gave any advice to the SCs, according to the standard practice guidelines. Fifteen gave some advice with a mean score below 1, the remaining one had a mean advice score of 1.75. The pharmacists advised the clients to take antibiotics in the full course (77.7% of antibiotics dispensed), warned about side effects and precautions after taking antihistamines (77.8% of antihistamines dispensed) and to take the drugs immediately after meal (30.0% of NSAIDs and 25.0% of corticosteroids dispensing). The mean drug cost was 52 Baht (US\$ 1.3). The average number of drug items dispensed was 1.75 (range 0-3). The percentage of antibiotic dispensing was generally quite high (87.5% of the encounters). All pharmacists gave antibiotics on at least two encounters. Twenty one dispensed antibiotics in all four encounters (Figure 8).

Table 22 displays types of drug dispensed for URI. Amoxicillin (54.7% of the encounters) and roxithromycin (14.1%) were the most common antibiotics dispensed. Most (71.4%) pharmacists dispensed these drugs for less than five days. Antihistamines and combination of antihistamines and decongestants were the second most common (49.2%). Second-generation antihistamines dispensed were cetirizine (2%). Others included lozenge (14.8%), corticosteroids (e.g., prednisolone) (12.5%) and items containing NSAIDs (e.g., ibuprofen and diclofenac) (7.8%). In one pharmacist encounter, the SC received antitussives.

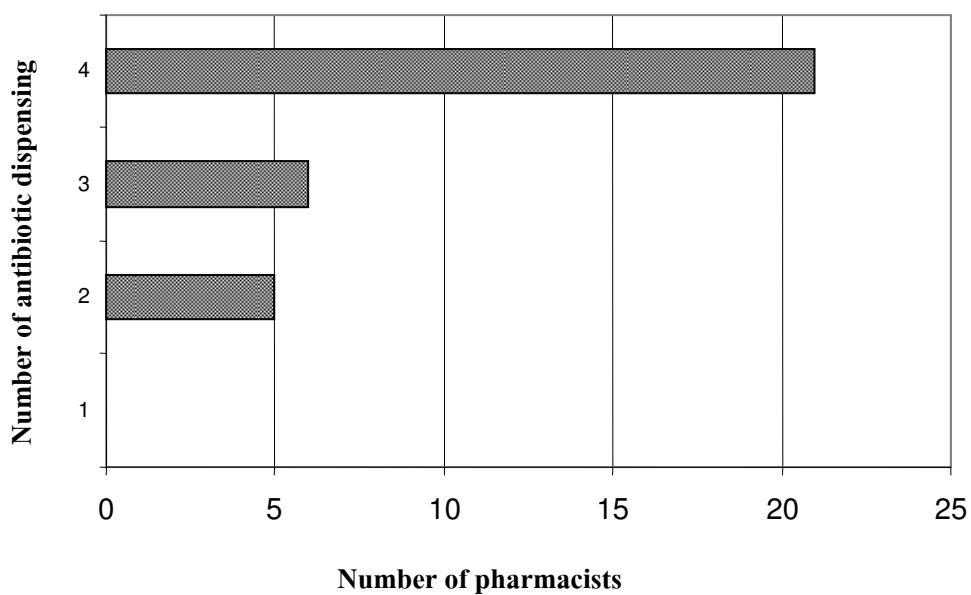


Figure 8 Pattern of antibiotic dispensing for URI by the 32 pharmacists

Table 22 Drugs dispensed by 32 pharmacists in the treatment of URI

Type of drug	Number	% ^a
Antihistamines and decongestants:		
Triprolidine+pseudoephedrine	35	27.3
Brompheniramine+pseudoephedrine	23	18.0
Brompheniramine+glyceryl guaicolate+phenylephrine	2	1.6
Cetirizine	2	1.6
Brompheniramine+phenylephrine	1	0.8
Total	63	49.2
Antibiotics:		
Amoxicillin	70	54.7
Roxithromycin	18	14.1
Cotrimoxazole	13	10.2

Table 22 (continued)

Type of drug	Number	% ^a
Antibiotics: (continued)		
Doxycycline	9	7.0
Dicloxacillin	1	0.8
Ofloxacin	1	0.8
Total	112	87.5
NSAIDs:		
Ibuprofen	7	5.5
Ibuprofen +paracetamol	2	1.6
Diclofenac	1	0.8
Total	10	7.8
Lozenges:		
Mybacin [®]	8	6.3
Strepsils [®]	6	4.7
Fisherman's friend [®]	2	1.6
Cepacol [®]	1	0.8
Sigatrin [®]	1	0.8
Oral-up [®]	1	0.8
Total	19	14.8
Corticosteroids:		
Prednisolone	16	12.5
Total	16	12.5
Other drugs:		
Serratiopeptidase	2	1.6
Dextromethorphan+terpine hydrate+guaifenesin	1	0.8
Total	3	2.4

^a Percent was calculated based on 128 drugstore encounters.

2. The influence of gender and socioeconomic status appearance of clients on pharmacist behaviors

Table 23 shows the frequency of items associated with URI services separated by client gender and SES, and by pharmacist gender. With the overall low frequency of history taking, female SCs from both SES groups were asked about the age of the patients more often than the males ($P < 0.05$). Female pharmacists were more likely to ask the questions on fever, sneezing, congestion, rhinorrhea and cough than male pharmacists ($P < 0.05$).

As shown in columns 3 to 6 of Table 24, the scores of history taking, advice giving and drug cost were not remarkably different among subgroups, suggesting rather little effect of SCs' gender and SES appearance. In columns 7 to 10, female pharmacists had a distinctly higher score of history taking, charged a higher price and were more likely to give antibiotics than male pharmacists, regardless of the gender of the SC. Effects of pharmacist gender on history taking and drug cost were confirmed to be significant after adjustment for other factors in the mixed effects models as shown in Table 25.

Table 23 Frequency of items related to history taking and advice giving for URI by client gender and SES, and by pharmacist gender

	Client characteristics				Pharmacist gender vs. client gender			
	Male with moderate SES	Male with poor SES	Female with moderate SES	Female With poor SES	Male pharmacists with male clients	Male pharmacists with female clients	Female pharmacists with male clients	Female pharmacists with female clients
History taking^a:								
Age of patient	8 ^b	8 ^b	13 ^c	23 ^c	7	15	9	21
Duration of disease	14	14	14	10	11	11	17	13
Fever	19	12	16	20	10 ^b	11 ^b	21 ^c	25 ^c
Sneezing	11	14	14	11	7 ^b	6 ^b	18 ^c	19 ^c
Congestion	13	16	14	11	8 ^b	4 ^b	21 ^c	21 ^c
Rhinorrhea	17	21	19	16	13 ^b	9 ^b	25 ^c	26 ^c
Color of discharge	4	3	4	5	2	3	5	6
Thickness of discharge	3	1	1	1	0	0	4	2
Chronicity	0	0	0	0	0	0	0	0
Severity of sore throat	8	10	12	12	5	9	13	15
Cough	17	19	17	20	9 ^b	11 ^b	27 ^c	26 ^c
Chronic diseases	4	3	2	4	2	2	5	4

Table 23 (continued)

	Client characteristics				Pharmacist gender vs. client gender			
	Male with moderate SES	Male with poor SES	Female with moderate SES	Female with poor SES	Male pharmacists with male clients	Male pharmacists with female clients	Female pharmacists with male clients	Female pharmacists with female clients
History taking^a(continued):								
Medication currently taking	0	0	1	0	0	0	0	1
History of drug allergy	26	28	26	27	22	23	32	30
Being pregnant or breast-feeding (female)	0	0	0	0	0	0	0	0
Advice giving:								
Rest	7	2	6	4	4	4	5	6
Maintaining adequate fluid intake	6	4	7	4	5	6	5	5

^a Full score for male is 11 and for female is 12 (adding question on pregnancy).

^{b, c} The superscript letters are different, reflecting $P < 0.05$

Table 24 Practice patterns by client gender and SES, and by pharmacist gender

	Total	Client characteristics				Pharmacist gender vs. client gender			
		Male with moderate SES	Male with poor SES	Female with moderate SES	Female with poor SES	Male pharmacists with male clients	Male pharmacists with female clients	Female pharmacists with male clients	Female pharmacists with female clients
	N=128	N=32	N=32	N=32	N=32	N=56	N=56	N=72	N=72
History taking ^a (mean±SD)	4.2±2.2	3.9±2.4	4.1±2.1	4.2±2.1	4.5±2.2	3.0±2.2	3.4±2.0	4.8±2.0	5.1±2.0
Advice giving ^b (mean±SD)	0.3±0.6	0.4±0.7	0.2±0.5	0.4±0.8	0.3±0.6	0.3±0.5	0.4±0.7	0.3±0.6	0.3±0.7
Drug cost ^c (mean±SD)	52.4±17.5	54.0±21.3	53.1±15.9	52.9±18.6	49.3±13.8	48.0±19.0	48.9±13.1	57.9±17.4	52.9±18.5
Antibiotic dispensing	112 (87.5%)	27 (84.4%)	30 (93.8%)	27 (84.4%)	28 (87.5%)	23 (41.1%)	25 (44.6%)	34 (47.2%)	30 (41.7%)

^a Full score for male is 11 and for female is 12.

^b Full score is 2 for both genders.

^c In Baht

Table 25 Results from the final mixed effects model

	Client effect				Pharmacist effect	
	Male vs. female		Moderate vs. poor SES		Male vs. female	
	Beta (SE ^a)	95% CI	Beta (SE)	95% CI	Beta (SE)	95% CI
History taking	-0.35 (0.49)	-2.21, 1.64	-0.20 (0.27)	-0.68, 0.38	-1.64* (0.54)	-2.61, -0.43
Advice giving	-0.03 (0.11)	-0.36, 0.33	0.19 (0.10)	-0.03, 0.38	0.05 (0.14)	-0.22, 0.32
Drug cost (Baht)	2.45 (2.64)	-11.77, 16.30	2.23 (2.60)	-3.04, 7.36	-6.94* (4.20)	-15.24, -0.42
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Antibiotic dispensing	1.38	0.43, 4.43	0.52	0.16, 1.71	0.73	0.18, 2.99

^a Standard error

* Statistical significance