

The Outcomes of Pharmaceutical Care for Burmese at a Drugstore in Thongphapum District, Kanchanaburi Province

นิพนธ์ต้นฉบับ

Original Article

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บทคัดย่อ

วัตถุประสงค์: เพื่อศึกษาบทบาทและผลลัพธ์การให้บริการทางเภสัชกรรมโดยเภสัชกรแก่ชาวพม่าในร้านยา อำเภอทองผาภูมิ จังหวัดกาญจนบุรี วิธีการศึกษา: การวิจัยเชิงพรรณนา โดยสัมภาษณ์ชาวพม่าที่มาใช้บริการในร้านขายยาจำนวน 360 คน ระหว่างวันที่ 1 มิถุนายน ถึง 30 สิงหาคม 2558 โดยประเมินปัญหาเกี่ยวกับยาเมื่อให้บริการครั้งแรกและเมื่อติดตามผล 1 สัปดาห์หลังให้บริการ ประมวลผลใช้โปรแกรมสำเร็จรูปคอมพิวเตอร์ ใช้สถิติ ความถี่ ร้อยละ ค่าเฉลี่ยและส่วนเบี่ยงเบนมาตรฐาน ผลการศึกษา: พบบทบาทของเภสัชกร 4 ด้านหลัก คือ การจ่ายยาหรือผลิตภัณฑ์รักษาตามอาการมากที่สุด (ร้อยละ 70.27) ตามด้วยการให้บริการผลิตภัณฑ์/ ยาตามที่ถูกคำระบุและให้คำแนะนำเพิ่มเติม (ร้อยละ 27.22) การคัดกรองโรคเรื้อรัง (ร้อยละ 1.11) และการส่งต่อให้แพทย์ (ร้อยละ 0.83) ปัญหาเกี่ยวกับยาที่พบบ่อยที่สุด คือ ความไม่ร่วมมือในการใช้ยา (ร้อยละ 9.72) ณ วันที่มารับบริการครั้งแรก และร้อยละ 7.22 ในวันที่ติดตามผล รองลงมาคือ รับประทานยาที่ไม่จำเป็น (ร้อยละ 9.44 และ 3.34 ในวันที่แรกและวันที่ติดตามผล) โดยปัญหาที่พบ เช่น ใช้ยาคุมกำเนิดผิดวิธี ใช้น้ำเกลือทางหลอดเลือดเมื่ออ่อนเพลีย ใช้ยาชุด และใช้ยาปฏิชีวนะไม่สมเหตุผล การบริการที่ใช้แก้ปัญหา คือ การให้คำแนะนำเกี่ยวกับการใช้ยา พร้อมทั้งฉลากช่วยภาษาพม่าที่พัฒนาขึ้น สามารถติดตามผลได้ ร้อยละ 70.27 โดยส่วนมากใช้โทรศัพท์ (ร้อยละ 45.83) ตามด้วยการกลับมาใช้บริการที่ร้าน (ร้อยละ 24.44) พบว่าส่วนมากหายเป็นปกติและไม่พบปัญหาการใช้ยา (ร้อยละ 29.72) ตามด้วยอาการดีขึ้นแต่ยังต้องกินยาต่อเนื่อง (ร้อยละ 16.38) ในผู้ที่ติดตามผลได้มีความพึงพอใจในการรับบริการทุกราย สรุป: การจ่ายยา การให้คำปรึกษา และแก้ไขปัญหาที่เกี่ยวข้องกับการใช้ยา เป็นบทบาทสำคัญในการให้บริการเภสัชกรรมสำหรับชาวพม่าในร้านยา สามารถใช้ฉลากช่วยภาษาพม่า และติดตามทางโทรศัพท์มาช่วยการให้บริการทางเภสัชกรรมในร้านยาได้

คำสำคัญ: บริบาลทางเภสัชกรรม, ชาวพม่า, ร้านยา, เภสัชกรรมชุมชน

Abstract

Objective: To identify roles of pharmacist in and outcomes of pharmaceutical cares for Burmese (Myanmar) at a drugstore in Thongphapum district, Kanchanaburi province. Method: In this descriptive study, data were collected by interviewing 360 Myanmar immigrants at a drugstore during 1st June – 30th August, 2015. Drug-related problems (DRPs) were assessed at the first service and 1-week follow-up. Frequency with percentage and mean with standard deviation were used to analyze data. Result: Four types of pharmaceutical care roles were found; dispensing (70.27 %), followed by providing products/drugs requested by customers with additional advice (27.22%), screening for chronic disease (1.11%) and referring to physician (0.83%). The most frequently found DRPs were non-compliance, 9.72% at the first service and 7.22% at the one-week follow-up. Unnecessary drug use was found 9.44% and 3.34%, respectively. Specific problems included incorrect oral contraceptive use, intravenous infusion for fatigue, and irrational antibiotic use. To solve such problems, the pharmacist provided drug use counseling with Burmese language labels. Of the 360 participants, 70.27% were successfully followed up mostly by telephone (45.83 %), followed by the drugstore re-visit (24.44%). The majority of participants had their health problems solved without DRPs (29.72 %), followed by partial improvement in health problem with continued treatment needed (16.38%). All of those successfully followed-up were satisfied with the service. Conclusion: Dispensing, counseling and drug-related problem management were major roles of pharmaceutical care provided to Myanmar immigrants at the drug store. Burmese labeling and telephone follow-up were applicable in providing pharmaceutical care in the drugstore.

Keywords: pharmaceutical care, Burmese, Myanmar, drugstore, immigrants, community pharmacy

Introduction

In Thailand, a large number of Myanmar people have continuously migrated and resided for work regardless of their legal status. These Burmese or Myanmar immigrants accounted for roughly 80% of all immigrants in Thailand.¹ Like all immigration problems in many countries, Thailand as the recipient of these immigrants has been inevitably affected tremendously on population, politics, economics, national security and health care system.² In terms of health care,

health status and access to care of these immigrants are the major problems. Previous studies indicated Myanmar immigrants faced malaria infestations³, upper respiratory tract infections⁴⁻⁶, gastrointestinal tract diseases⁷, and family planning and reproductive health.⁸ The causes and poor health behaviors of these Myanmar immigrants that led to these health problems included heavy labor work, poor hygienic habitat, and a lack of knowledge of and

understanding in proper health behaviors in prevention and treatment.⁹

To complicate the matter, these Myanmar immigrants were also suffering from drug related problems in their illness management. They faced adverse drug effects, non-compliance on drug use, and inappropriate drug selection.¹⁰ It was found that the malarial resistance emerged from self-medicated behavior.¹¹ The availability of pre-packed unlabeled polypharmacy, or "Yaa-chud," at grocery stores and drugstores could also worsen their health status. These drugs were mostly used as self-care for fever of undiagnosed origin.¹¹ These Myanmar immigrants also lacked knowledge in contraception⁶ and contraceptive drug use.¹²

Myanmar immigrants' health care behavior is in part like Thai people. For non-serious illnesses, they sought care from drugstores, sometimes in a form of self-medication. For more serious illnesses, they accessed public hospital care as allowed by their health insurance payment schemes.^{3,7,13} Access to care among Myanmar immigrants has been problematic. They refrained from institutional care because of various reasons including unfamiliarity, feeling threatened, being unfamiliar to the service process, Thai language illiteracy, and the overwhelming expenses related to a far distance traveling to the hospital.^{1,3,9} These demoting factors have driven Myanmar immigrants away from the public service to the public sector such as drugstores and private clinics. As a result, drugstores are the first sought-of choice for healthcare access among Myanmar immigrants.

Drugstores or community pharmacies are a crucial part of health system in Thailand. They provide health care to a large portion of population including Myanmar immigrants.¹⁴ Drugstores have gained more popularity because of their advantages including convenience, accessibility, limited loss of work, available care for non-serious illnesses, and location close to residence and workplace.^{14,15} Recently a movement of quality drugstores approved by the Thai Pharmacy Council has been growing and creating more services in the drugstores. In addition to the community pharmacy dispensing service, they have provided counseling on medication, health product use, and self-care. They have also performed disease screening and referrals. Drugstores have been embracing the public health service's ultimate goal of the wellness of the people. Such idea has led drugstores to integrate the pharmaceutical care practice into their service.¹⁶

Previous studies regarding pharmaceutical care found that providing the care to patients with sexually transmitted disease resulted in an increase in the customer's knowledge on the disease. In addition, the follow-up revealed a cure rate as high as 87.88%.¹⁷ In another study, drugstores could also perform screening and referral in 1.8% of the cases and that resulted in a satisfaction of 87% of the customers regarding the knowledge and recommendation provided by the community pharmacist.¹⁸ A community pharmacist could also provide pharmaceutical care to patients with chronic diseases and help the patients meet their medication needs and improve their quality of life.¹⁹ In a survey study on oral contraceptive pill (OCP) use behavior, 29.8% of drugstores were trusted in providing the OCP.²⁰ All of these studies suggested that pharmaceutical care in drugstores plays a crucial role in achieving a better therapeutic outcome and an acceptable satisfaction to both givers and receivers of the care.

With a shared border with Myanmar, Kanchanaburi is one of the provinces that accommodate a large number of Myanmar immigrants. As of September 25, 2013, of the 29,480 immigrant workers registered in Kanchanaburi, 98.54% (or 29,050) were Myanmar immigrants, while the rest were Cambodians and Laos.²¹ This large proportion of Myanmar immigrants was more prominent in the three districts with the shared border with Myanmar, including Sangklaburi, Thongphapoom and Saiyok. When in need for health care, as high as 32.4% of these immigrants acquired service from drugstores. Among these Myanmar immigrants receiving care from the drugstores, 60.2% were Karen tribe.⁴ It was obvious that drugstores were a highly accessible healthcare service especially for non-serious illnesses. This brought to light the crucial role of drugstore service for Myanmar immigrants. Drugstores could help these immigrants better understand illness, self-care, prevention, and medication use so that these immigrants could maintain their health and well-being. Drugstores could also help screen the suspected cases of contagious diseases, so that the transmission could be contained. In addition, drugstores could refer cases that need more proper investigations and treatments in a timely fashion. Drugstores possibly hold an indispensable role in healthcare system, not only for Thai people, but these immigrants as well.

With the expected role of drugstores on the health and well-being of these Myanmar immigrants, the extent of such

roles and their related benefit should be evident. Thus far there have been no such data. This study therefore aimed to determine the extent of a community pharmacist's role in providing pharmaceutical care service for Myanmar immigrants, and the related outcomes. The results could be useful in information for improving the health care service system in drugstores for Myanmar immigrants. Specifically we aimed to identify roles of community pharmacists in and outcomes of pharmaceutical cares for Burmese immigrants at a drugstore in Thongphapum district, Kanchanaburi province. We aimed to determine such roles and outcomes at the first service and at follow-up.

Methods

This cross-sectional descriptive study was conducted from June 1 to August 30, 2015 at a drugstore in the district of Thongphapum, Kanchanaburi province. The study sample was 360 Myanmar immigrants, possibly residing or working in the district, who received care at the drugstore. Using Yamane equation²², a sample size of 360 participants was estimated based on a known population of Myanmar immigrants of 74,814 registered with Thongphapum district (as of October, 2014), with a 95% confidence level and a sampling error of 5%. The subjects were selected using convenience sampling technique. All subjects were those willing to participate. Informed consent from all participants was obtained. The researcher (R. Thanathakornkul) communicated in Thai with participants. For those unable to communicate in Thai, a translator was used. In all of such cases, a translator was the person accompanying the participant to the drugstore. For those younger than 18 years old, consent from their parents was obtained.

Data collection instruments were interview and follow-up forms which consisted of three parts. The first part requested demographic information of Myanmar participants. The second part recorded the pharmaceutical care services rendered to the participants. These services in brief included identifying and solving health problems and drug-related needs, medication dispensing, screening for chronic diseases, and referring the customers to the hospital. The third part recorded follow-up information emphasizing the outcomes of pharmaceutical care and drug-related problems. Drug-related

problems/needs and their related outcomes were guided by the work of Cipolle and colleagues (1998).²³

Interview and data collection

The in-person interview was conducted at the drugstore where the potential participants came for service. All information as indicated by the three parts of the data collection form was obtained. Drug related problems/needs were identified at the in-person interview and the outcomes as well as unresolved problems were identified at the follow-up. For those participants willing to give the researcher their phone number, a follow-up was carried out via telephone call. Follow-up at the drugstore was done for those unwilling to provide their phone number. The follow-up was done about a week from the first in-person interview. For those requiring more than one follow-up, an interval of one week was set for another interview.

Data analysis

Demographic data of the participants were presented using descriptive statistics including mean with standard deviation and frequency with percentage. Drug related needs/problems were counted and grouped. Frequency and percentage of each of the problem categories was presented.

Results

A total of 360 participants were successfully recruited. The participants had an average age of 33.45 years old (+/- 14.87) with a range of 21 to 30 years. The majority was female (65.83%). For their ethnicity, most of them were Myanmar (70.83%) followed by Mon (22.22%). In terms of occupation, the majority was workers in the rubber plantation field (47.78%). The largest proportion (45.83%) came for drugstore service at the late afternoon (2.01 - 6.00 pm). Almost half of them (46.04%) could communicate fairly in Thai which means they needed a little time to form verbal response, while 51.39% of them needed more time to understand Thai verbal questions. In addition, 89.44% could not read Thai language. Most of them reported having health insurance for immigrants (89.44%), no chronic illnesses (91.94%), and no history of drug allergies (98.33%). Most of the participants were receiving the service (78.33%) at the time of the drugstore visit (Table 1).

Table 1 Demographic characteristics of the Myanmar immigrants (N = 360).

Demographic characteristics	N (%)
Gender	
Male	123 (34.17)
Female	237 (65.83)
Age (yrs) (mean = 33.45 ± 14.87 yrs; min = 3 months; max = 83 yrs)	
< 10	26 (7.22)
11 – 20	37 (10.28)
21 – 30	98 (27.22)
31 – 40	96 (26.67)
41 – 50	59 (16.39)
51 – 60	34 (9.44)
> 60	10 (2.78)
Ethnicity	
Myanmar	255 (70.83)
Mon	80 (22.22)
Karen tribe	25 (6.94)
Occupation	
Rubber plantation worker	172 (47.78)
Plantation field worker	59 (16.39)
General worker	39 (10.83)
Students	38 (10.55)
Housewife	30 (8.33)
Tapioca mill worker	5 (1.39)
Oil palm plantation worker	1 (0.28)
Unemployed	16 (4.44)
The arrival time	
06.01-10.00 AM	50 (18.89)
10.01 AM – 2.00 PM	113 (31.39)
2.01 – 6.00 PM	165 (45.83)
6.01 – 10.00 PM	32 (8.89)
Thai speaking literacy	
Good (communicate fluently with little time to form sentences)	155 (43.06)
Fair (need a fair amount of time to form sentences)	169 (46.94)
Poor (need translator)	36 (10.00)
Thai listening literacy	
Good (understand most of the Thai verbal questions right away)	162 (45.00)
Fair (understand some Thai verbal questions with some time needed)	185 (51.39)
Poor (need translator)	13 (3.61)
Thai reading literacy	
Good (understand most Thai sentences)	14 (3.89)
Fair (understand some Thai sentences)	24 (6.67)
Poor (understand no Thai sentences)	322 (89.44)
Health insurance payment schemes	
Immigrant insurance	309 (85.83)
Social security scheme insurance	3 (0.83)
No health insurance	48 (13.33)
Drug allergy history	
No	354 (98.33)
Yes	6 (1.67)
Recipient of the service	
Receiving service for themselves	282 (78.33)
Receiving service for others	78 (21.67)

Regarding the reasons for the preference on the drugstore service, the majority of the participants reported that the service could be completed concisely (68.89%), while some reported a past experience of a good therapeutic outcome (12.22%) (Table 2).

Table 2 Reasons for the preference on the drugstore service (N = 360).

Reasons	N (%)
Concise service time	248 (68.89)
Past experience with a good therapeutic outcome	44 (12.22)
No work absence needed	36 (10.00)
Close to workplace or residence	32 (8.89)

Pharmacist role in the drugstore

The most frequently found responsibility of the pharmacist was the dispensary task, which was done in 70.27% of the participants. In Thailand, dispensary service in a drugstore or community pharmacy includes illness history taking, and deciding on medications to dispense. The second responsibility was providing medications and health products requested by the customers with some additional advice (27.72%) (Table 3). Screening was done in 1.11% of the participants of which most cases were hypertension screening, and referral to physicians was made in 0.83% for cases of hypertension, urinary tract infection, and diabetes.

Table 3 Responsibility of community pharmacist in providing pharmaceutical care to Myanmar immigrants (N = 360).

Responsibility of pharmacist	N (%)
Dispensing	253 (70.27)
Providing medications and health products requested by the customers with some additional advice	98 (27.22)
Screening for chronic disease	4 (1.11)
Referral to physicians	3 (0.83)
Providing advice with no products dispensed	2 (0.56)

The most frequently consulted illnesses and health problems were respiratory diseases (16.67%), followed by skin diseases (15.56%), musculoskeletal diseases (12.22%), and contraception and reproductive health (11.94%). In terms of health products, they were provided in a very small portion of the participants (1.39%) (Table 4).

Regarding drug related problems (DRPs) identified at the first service, the majority of Myanmar immigrants had no DRPs (77.22%). Among those who did, the most found DRPs were non-compliance (9.72%), especially the wrong use of oral contraceptive pills. The second most found DRPs were unnecessary drug therapy (9.44%). These included the use of drugs as tonic such as intravenous infusion of parenterals and the use of oral rehydration salts. The Myanmar immigrants also requested the pre-packed, unlabeled polypharmacy, or

“Yaa-chud,” for fever, muscle ache, and toothache. More importantly, they requested unnecessary, irrational antibiotics. Adverse drug reactions were also found (3.06%) mostly related to oral contraceptive pills. These adverse effects included nausea, vomiting, headache, weight gain, edema, and loss of appetite. DRPs of the need for additional drug therapy and receiving wrong drugs were found in the fewest number of participants (0.28% each) (Table 5).

Table 4 Frequency of pharmaceutical care in Myanmar immigrants classified by illness and health problem (N = 360).

Illness and health problem	N (%)	Pharmaceutical care service*				
		A (n = 253)	B (n = 98)	C (n = 4)	D (n = 3)	E (n = 2)
Respiratory disease	60 (16.67)	53	7	0	0	0
Skin disease	56 (15.56)	43	12	0	0	1
Musculoskeletal disorder	44 (12.22)	38	6	0	0	0
Contraception & reproductive health	43 (11.94)	20	22	0	0	1
Gastrointestinal disease	38 (10.56)	29	9	0	0	0
Malaise / weakness	33 (9.17)	4	29	0	0	0
Fever	22 (6.11)	22	0	0	0	0
Headache	11 (3.06)	10	1	0	0	0
Urinary tract disease	11 (3.06)	9	1	0	1	0
Toothache	10 (2.78)	10	0	0	0	0
Eye disease	8 (2.22)	7	1	0	0	0
Hypertension	5 (1.39)	0	0	4	1	0
Vaginal discharge	4 (1.11)	3	1	0	0	0
Dysmenorrhea/irregular menstruation	4 (1.11)	1	3	0	0	0
Smoking cessation	2 (0.56)	1	1	0	0	0
Dizziness	2 (0.56)	2	0	0	0	0
Diabetes	1 (0.28)	0	0	0	1	0
Obesity	1 (0.28)	1	0	0	0	0
No illness/health problem	5 (1.39)	0	5	0	0	0
Wound dressing (n = 1, or 0.28%)						
Toddler products (n = 2, or 0.56%)						
Musculoskeletal support device (n = 2, or 0.56%)						

* Type of pharmaceutical care service: A = dispensing, B = providing medications and health products requested by the customers with some additional advice, C = screening for chronic disease, D = referring to physician, and E = providing advice with no products dispensed.

Table 5 Drug related problems in Myanmar immigrants at the first service (N = 360).

Drug related problems	N (%)
Without drug related problems	278 (77.22)
With drug related problems (n = 82)	
Non-compliance	35 (9.72)
Unnecessary drugs	34 (9.44)
Adverse drug reactions	11 (3.06)
Need for additional drug therapy	1 (0.28)
Wrong drugs	1 (0.28)

Once follow-up was considered, of the 360 Myanmar immigrants, we could contact for at least another interview in 70.27% of them. The most common means to contact was telephone (45.83%), followed by a re-visit at the drugstore (24.44%) (Table 6). In addition, most cases (253 participants) were followed up once. The most number of follow-ups was 4 times.

Table 6 Follow-up status and means of follow-up contacts (N = 360).

Follow-up with means of contact	N (%)
Had been followed up	253 (70.27)
By telephone	165 (45.83)
By re-visit at the drugstore	88 (24.44)
Had not been followed up	107 (29.73)

Among these 253 of 360 participants who were successfully followed, 195 of them were those who received dispensing, screening and referral while the other 58 were those who requested health products. Considering participants who received the services of dispensing, screening and referral, 107 of 360 participants (29.72%) had their health problems completely resolved with no DRPs found, neither at the first service, nor follow-up. There were 16.38% and 7.78% of 360 participants who had their health problems partially improved with ongoing treatment and with DRPs, respectively; while 0.28% were referred to the physician.

Regarding those 58 participants who requested health products, the majority had no DRPs at the first service (35 or 9.72%). Among those with DRPs found, 3.33% had their DRPs remained unsolved and 3.06% had their DRPs resolved at the first service. Among 107 participants who were unsuccessfully followed up, the majority (21.94%) did not have DRPs at the first service; while 7.79% did.

Table 7 Outcomes of pharmaceutical care by follow-up status (N = 360).

Outcomes of pharmaceutical care by follow-up status	N (%)
1. Participants successfully followed up	253 (70.28)
1.1) participants receiving services of dispensing, screening and referral	195 (54.16)
A) problems completely resolved, with no DRPs	107 (29.72)
B) problems partially improved, ongoing treatment	59 (16.38)
C) problems partially improved, with DRPs	28 (7.78)
D) problems not resolved, with referral to the physician	1 (0.28)
1.2) participants who requested products	58 (16.11)
A) no DRPs found at the first service	35 (9.72)
B) DRPs remained at the follow-up	12 (3.33)
C) DRPs resolved at the first service	11 (3.06)
2. Participants unsuccessfully followed up	107 (29.72)
A) no DRPs at the first service	79 (21.94)
B) DRPs found at the first service	28 (7.79)

* % compared with 360 participants.

Pharmacist's roles

In terms of roles of the pharmacist in providing care to the Myanmar immigrants at the drugstore both at the first service and at follow-up were as follows. The pharmacist instructed how

to use medications of each of the illnesses using labels as well as auxiliary labels with Burmese language. These labels were developed in the time of the study conduct. The topics of the labels included oral contraceptive pills, eye drops, and vaginal suppository. Other educational leaflets to advise how to avoid precipitating factors of allergy and asthma were also created and provided to the participants.

The second role that was evident in this study was that the pharmacist was able to emphasize the importance of regular appointed visits with the physician and compliance with the prescriptions. The third role was that the pharmacist could emphasize the rational antibiotic use and the importance of completing the antibiotic course to achieve a desirable outcome and avoid bacterial resistance.

The fourth role was that the pharmacist could help the participants realize the danger of pre-packed unlabeled polypharmacy, or “Yaa-chud.” This malpractice is an ever-changing, complex drug problem in Thailand. In addition, the use of intravenous drug injection was also common. The fifth role was that the pharmacist could verify drug allergy and adverse drug reactions. The pharmacist could also educate the participants on how to be vigilant on drug allergy and adverse drug reactions. Lastly, the sixth role was modifying drug therapy in case of non-therapeutic drug choices and referring the patient to the physician for a more proper medical care.

Satisfactions on drugstore services

Regarding satisfaction, among 253 Myanmar immigrants receiving service at the drugstore who were successfully followed up, they all were satisfied with the service. They reported the access to the service was convenient and time-saving, the communication with Myanmar-language labels was easy and convenient, the environment was welcoming, the waiting seats were available for comfort, and the place was clean. They were satisfied with the follow-up as told either by phone-call or actual store visit. For those who were referred to the physician, two of them were highly satisfied since they were afraid of being uncommunicable with healthcare providers. The pharmacist’s note to the healthcare providers and physician helped them communicate with the providers very effectively.

In terms of additional services, most participants reported that the drugstore could be considered as sufficient if certain

products were readily available when needed. There was also a need for translators of Myanmar and Mon languages. A few reported they needed home visits since it was inconvenient to leave the house. Some requested reserved stocks of health products that they could buy and mail to their family members in Myanmar. Some other requests included injectable contraceptive service, parenteral infusions, and blood infusions. The pharmacist had informed the participants that these services were illegal in drugstores and could not be provided.

Discussions and conclusions

The present study determined roles of the community pharmacist and outcomes of providing pharmaceutical care for Myanmar immigrants at a drugstore in Thongphapum district, Khanchanaburi province, Thailand. We found the four major roles including dispensing drugs and health products as indicated by health problems (70.27%), followed by providing products requested by the customers with some additional advice, chronic disease screening, and referral to the physician. This dispensing role needed an intensive communication between the Thai pharmacist and Myanmar immigrants. However, since dispensing was found to be the major service provided to these immigrants, it confirms that language barrier has not been an unsurmountable problem in communicating between the two parties. This role is a passive one as indicated by the Thai Pharmacy Council. The council and the Association of Community Pharmacy of Thailand also encourage a more active role of the pharmacist including home healthcare visits and disease screening. Our study findings that respiratory disease (16.67%) and contraceptive and reproductive health (11.84%) were prominent problems that the pharmacist could provide to Myanmar immigrants are consistent with the goal of the quality drugstores initiated by the Association of Community Pharmacy of Thailand, along with the chronic disease screening service.²⁴ The association held various conferences and trainings for community pharmacists in disease screening in metabolic syndrome and related illnesses, and drug counseling on respiratory disease, with asthma in particular, and pills for regular and urgency contraception.

Even though a small proportion of Myanmar participants sought smoking cessation service (0.56%), drugstore was

undeniably proved to be able to provide such a communication-intensive service. The Association of the Community Pharmacy of Thailand, based on various studies' results, have advocated the provision of smoking cessation as a distinct and effective role of community pharmacy.²⁵ The finding of ours could help extend the provision to the target population other than Thais.

Of the 360 participants, we found that 45.83% could be followed up by telephone, while 24.44% by the actual re-visit to the drugstore. Taken together, 70.27% were successfully followed. This finding suggests the opportunity for community pharmacy to achieve a large-scaled active service with Myanmar immigrants who had fair-to-good communication in Thai language. These two channels of follow-up communication have been advocated by the Association of the Community Pharmacy of Thailand¹⁶ and Cipolle and colleagues.²³

In terms of drug-related problems and needs, the most found DRPs both at the first service and follow-up was non-compliance which was rooted from poor understanding on the drug use instructions, especially oral contraceptive pills. The second most problem was inappropriate drug use especially unnecessary drugs, particularly the use of parenteral infusions and oral rehydration salt as tonics. In addition, they used the pre-packed unlabeled polypharmacy, or "Yaa-chud," for fever, musculoskeletal pain and toothache. Inappropriate antibiotic use was also prominent among these Myanmar immigrants.

Our finding was different from the study in Samutprakarn Hospital where adverse drug reaction was the most reported DRPs among Myanmar immigrants (41.00%) followed by non-compliance (37.90%). In our study, noncompliance was found the most frequently, especially the use of oral contraceptive pills. Our finding was consistent with the study of Ibis Reproductive Health on the reproductive health problems among Myanmar immigrants in Thailand. They found that Myanmar immigrants had a low level of knowledge and skill in contraception and a poor access to contraception.¹² A study by Thanadom also found that most female immigrant labors lacked knowledge in contraception, and had unwanted pregnancy and abortion.⁶

The inappropriate use of parenteral infusions and oral rehydration solutions as tonics was consistent with the study of Ratborirak¹ and the Health Insurance System Research Office of Thailand.¹³ Both studies found the existence of the

perceptions that parenteral infusions and injectable drugs provided a cure. With such beliefs, these immigrants avoided the hospital care since most drug treatments were in oral forms.¹³ The inappropriate use of injectable drugs was also in accordance with the study of Sringuenyung²⁶ where injectable vitamins were perceived as tonics for fatigue, insomnia, and loss of appetite. The use of the pre-packed unlabeled polypharmacy or "Yaa-chud" was a prevalent unnecessary drug problem not only among Thai but immigrant labors as well. This improper use also led to a difficulty in identifying the causative drug in 66.67% of the adverse drug reaction cases.²⁶ The improper use of drugs especially antimalarial drugs could be associated with the malarial resistance as also indicated by the study of Newton and colleagues.¹¹ They found that malarial resistance among Myanmar immigrants was associated with the self-medicating behavior especially on the use of Yaa-chud, available at grocery stores and drugstores. As it was the most convenient access, these drugs were their self-care of choice.

To tackle all the problems mentioned above, our study found that the basic role of the pharmacist explaining and correcting the misunderstanding in drug use was effective in these Myanmar immigrants. To aid the communication, our regular and auxiliary labels with Burmese language, developed during the study conduct, were helpful to the immigrants. The study of Angkoonisit also found that labels with Burmese language helped the immigrants receiving care at Samutprakarn Hospital better understand the drug use.¹⁰

For the needs on drugstore service, these Myanmar immigrants' expectation could be similar to Thais as they were satisfied with the product availability when needed. The request for translator for Myanmar and Mon languages at the drugstore was also found. This finding was similar to that in the study of Laosai and Teeravisit among Myanmar immigrant factory workers in Khonkaen province.²⁷

This study was of course not free of limitations. At a certain time of the day, with a large group of customers to serve, the researcher was unable to approach all of them for participation. The representativeness of the Myanmar immigrant study population could be lessened. In addition, some participants could not remember their phone numbers and some did not have a phone. This made the follow-up by phone impossible and some outcomes could not be obtained.

Our findings could suggest some implications. Drugstores could have regular and auxiliary labels with Burmese language in place to help better communicate with these customers. Instruction materials especially on respiratory diseases, skin diseases, and oral contraceptive pills should be readily available for Myanmar immigrants. Their preference on drugstores is an advantage to provide a more comprehensive pharmaceutical care. Finally, the telephone follow-up should be used more often among Myanmar immigrants who have fair-to-good communication in Thai language.

Based on our study that aimed mainly at the immigrant labors in the agriculture sector, more studies should be done in those Myanmar immigrants working in the factories. More inappropriate health behaviors and practices, such as the use of injectable drug infusions as a tonic and the wrong use of oral contraceptive pills, should be studied in more depth. The studies on the effectiveness of instruction materials such as labels for drugs with special techniques are also in need. Finally, the referral system between drugstore and hospital for these Myanmar immigrants should be studied.

In conclusion, pharmaceutical care service, especially drug use counseling and drug related problems management, could be a major role of a community pharmacist to take care of Myanmar immigrants. The use of labels in Burmese language and telephone follow-up was an effective aid in communicating with these customers.

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Editorial note

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