



Utilization of non-prescription medicines in minor ailments management: A nationwide study undertaken among Malaysian community pharmacists

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ABSTRACT

The absence of dispensing separation between private doctor clinics and pharmacies is the main challenge of the Malaysian community pharmacists. Within this context, the utilization of non-prescription medicines for minor ailments treatment is one of the major roles of the pharmacists. This study aimed to evaluate the minor ailments management using non-prescription medicines among the Malaysian community pharmacists. This was a cross-sectional descriptive study. The entire population of Malaysian community pharmacists ($n = 2,730$) were invited for participation. Data were collected across the first 10 requests for minor ailments management involved adult consumers in a working day. A total of 173 pharmacists were participated (response rate 6.3%) and 1,704 consumers with 2,149 minor ailments were encountered. The consumers mostly have one minor ailment (78.3%) and involved acute conditions (92.3%). Productive cough (7.3%), fever (6.3%), and dermatitis (6.1%) were most commonly managed by the pharmacists. Cetirizine (5.9%), paracetamol (4.7%), and diclofenac (4.2%) were most frequently dispensed and each consumer received an average (median) of two medications. The median duration of treatment was 5 days [inter-quartile range (IQR): 3–7] and the cost of treatment involved only medicines cost (median: RM 13.40; IQR: 8.00–21.00) without any consultation fee. The majority of the consumers (75.5%) sought help from pharmacists first without consulting the doctors. Only 16.4% of the consumers were followed-up by the pharmacists. In conclusion, the pharmacists actively managed the minor ailments with an affordable cost of treatment. Guidelines and an audit system should be established to enhance the minor ailments practices of the pharmacists.

INTRODUCTION

Recently, there is a growing global trend for consumers to practice self-care and self-medicate for common minor ailments by using non-prescription medicines (Benrimoj *et al.*, 2007b). The role of community pharmacists as educators and prescribers on the non-prescription medicines became crucial as they are the healthcare professionals most readily accessible to the public to ensure the appropriate use of medicines (Chua *et al.*, 2006). Worldwide, there are countries adopting the component of achieving quality use of

medicine under the national medicine policy with the aim to provide better health outcomes (Benrimoj *et al.*, 2008; Ministry of Health Malaysia, 2007). The quality use of medicines should include the use of non-prescription medicines for minor illnesses management. Indeed, there is a new model of healthcare which is classified as “pharmacist-assisted self-care” whereby substantial business and professional opportunities are created for community pharmacists, and at the same time providing a higher level of healthcare value for consumers (Covington, 2006). Community pharmacists will assess the suitability of self-care treatment, recommend the best choices of treatment by using non-prescription medicines, and provide counseling on the use of medicines.

In Malaysia, the absence of dispensing separation between private doctor clinics and pharmacies is the main challenge of the community pharmacists. Additionally, the lack of government medicine prices control policy in private

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health sectors has further enhanced medicine prices competition between pharmacies (Sivanandam *et al.*, 2018). Consequently, the community pharmacists tend to reduce the profit margins for prescription medicines and revitalize the non-prescription medicines sales and services, including Class C Poison and over-the-counter medicines, for minor ailments treatment. Although there is no clear definition of a minor ailment, symptoms which are associated with a short term, trivial, and self-limiting illness are considered as a minor ailment (Lo, 2006).

Currently, there is no local guideline and model of practice available in Malaysia to guide the community pharmacists' practices of minor ailments management. Therefore, the Malaysian government could consider adopting policy used by the neighboring developed countries. For instance, Australian community pharmacists have standards of practice developed by the pharmacy profession to guide the provision of non-prescription medicines using a consumer-focused and risk management approach (Benrimoj *et al.*, 2007b). Consumer-focused is an approach that concentrates on the consumers' health outcomes rather than the sales of products. The risk management approach will guide the pharmacy assistants to perform screening and refer at-risk consumers to the pharmacists when necessary (Benrimoj and Wilson, 2006). The standards of practice for the provision of non-prescription medicines require a constant monitoring by professional bodies to ensure the responsibilities of community pharmacists are met (Benrimoj *et al.*, 2007a).

Malaysia has a unique medicine classification as compared to other countries. According to the Malaysian Poison Act 1952, all Class C Poison can be dispensed by a registered pharmacist in a licensed pharmacy premise without a prescription (Pharmaceuticals Services Division, 2019). Class C Poisons consist of medicines such as antihistamines, nonsteroidal anti-inflammatory drugs (NSAIDs), topical corticosteroids, and topical antibiotics that cover minor ailments (Legal Research Board of Malaysia, 2006). For instance, naproxen and topical betamethasone (corticosteroid) which are classified as Class C Poisons in Malaysia regardless of the dose and packing can be used for pain management and dermatitis, respectively, by the community pharmacists without the need of prescriptions (Pharmaceuticals Services Division, 2019), whereas in the developed country like Australia, naproxen that exceeds 250 mg per dosage unit in packs more than 30 and topical betamethasone are classified as prescription-only medicines (Therapeutic Goods Administration, 2019). The wide range of Class C Poisons in Malaysia allows the community pharmacists to play a distinctive role in minor ailments management.

A previous study in Malaysia found that approximately 42% of the Malaysian consumers purchased their medications from community pharmacies (Babar and Ibrahim, 2003). This provides a greater opportunity for pharmacists to serve better pharmaceutical care to the public through pharmacist guided self-medications (Chong *et al.*, 2011). Unassisted non-prescription medicines use may lead to adverse therapeutic consequences for the consumers. Hence, there is a need for community pharmacists to prevent harm through interventions during the provision of minor ailments consultation (Covington, 2006). In fact, a study revealed that 20.9% of the community pharmacists' interventions

on non-prescription medicines use were potentially lifesaving (William *et al.*, 2011).

To date, there is limited data on Malaysian community pharmacists' usage of non-prescription medicines in the management of minor ailments. A baseline data should be provided to develop guidelines and models of practice for community pharmacists in minor ailments management. This study, therefore, aims to evaluate the use of non-prescription medicines (Class C Poison and over-the-counter medicinal products) in the management of minor ailments by the Malaysian community pharmacists. The total charges imposed on the consumers (medication prices, consultation fee, or any additional service charges) and consumers' follow-up were also assessed.

METHODS

This was a descriptive cross-sectional survey using a self-completed anonymous data collection form to be filled in by the community pharmacists. The data collection form was tested for face and content validity by two experts and five registered pharmacists. It was further adjusted after pilot testing with five community pharmacists. The data collection form consists of sections on demographic and practice characteristics of the community pharmacists, minor ailments managed by the community pharmacists, medications dispensed, and the total charges imposed on the consumers. Besides, there was a question to assess whether the consumer visited the community pharmacy without seeing a doctor first for the minor ailment treatment. A question to assess whether the pharmacist planned to follow-up the consumer was also included in the data collection form. This study has obtained ethics approval from the Joint Ethics Committee of School of Pharmaceutical Sciences, Universiti Sains Malaysia-Hospital Lam Wah Ee on Clinical Studies [approval number: USM—HLWE/IEC/2012(0001)].

All the 2,730 community pharmacists practicing in Malaysia as listed in the Division of Pharmacy Service, State Government of all the states in Malaysia were invited for participation in this study. The inclusion criteria were the community pharmacists who received at least 10 consumers' requests for minor ailment treatment per day. Data were collected across the first 10 requests for minor ailments management for adult consumers encountered by the community pharmacists in one working day upon receiving the invitation to participate in this research. The data collection included only the request from the consumers who walk in without a prescription and seek for community pharmacist's help in minor ailments treatment. The pharmacists were requested to provide the information on the non-prescription medicines dispensed for the minor ailments. Additionally, the pharmacists were required to assess whether the consumer visited the community pharmacy for the minor ailment treatment without seeing a doctor first. The pharmacists were also requested to provide information on whether they planned to follow-up the consumer. This study excluded the requests for minor ailments management in children. The community pharmacists received the data collection forms through a personal approach (for the pharmacists in the state of Penang) and mail (for other states throughout Malaysia). Two invitation letters and two follow-up letters were used to increase the response rate.

Table 1. Total number of community pharmacists, response rate and distribution of respondents according to region in Malaysia.

Region	Number of enrolled community pharmacists ^a		Respondents		Response rate ^b
	<i>n</i>	%	<i>N</i>	%	%
(1) East Malaysia	424	15.5	27	15.6	6.4
(2) Northern Region of West Malaysia	661	24.2	65	37.6	9.8
(3) Central Region of West Malaysia	1,038	38.0	38	22.0	3.7
(4) Southern Region of West Malaysia	427	15.6	29	16.8	6.8
(5) East Coast of West Malaysia	180	6.6	14	8.1	7.8
Total	2,730	100.0	173	100.0	6.3

^aThe entire population of community pharmacists in Malaysia was enrolled in the study. ^bOverall response rate.

Written informed consent was obtained from all the responding pharmacists and no personal data of the participants were recorded. Data were collected from 4th December 2013 to 24th April 2016.

Data analysis was performed by using IBM SPSS[®] Statistics Version 24. Frequency and cross-tabulation were used for descriptive analysis. All the data were initially tested for normality distribution. As the data were not normally distributed, the average value of the data was presented as median and inter-quartile range (IQR). Non-parametric test including Chi-square, Mann–Whitney *U*, and Kruskal–Wallis test were used to evaluate the differences in the practices of the pharmacists. A *p*-value of less than 0.05 was set to determine statistical significance.

RESULTS

Demographic and practice characteristics of community pharmacists

A total of 173 community pharmacists were participated in this study for a response rate of 6.3% with the highest response rate of 9.8% originating from the Northern Region of West Malaysia (Table 1). The majority of the community pharmacists were female (67.1%) and aged between 31 and 40 years (38.2%). Considering the ethnicity, most of the pharmacists were Chinese (74.6%). The pharmacists mostly (34.1%) have five years or less of working experience in a community pharmacy setting. Most of the community pharmacists were practicing in the urban area (79.2%). Approximately, half (53.2%) of the pharmacists were employees or license holders of the pharmacies. The pharmacists mostly (48.0%) practiced at single outlet independent pharmacies and the majority (60.7%) responded that there was only one pharmacist in the respective pharmacies. Almost half (49.7%) of the pharmacists had their pharmacies operating for 7 full days per week (Table 2).

Number of minor ailments and medicines dispensed

A total of 1,704 consumers with minor ailments visited community pharmacies to seek treatment and the total number of minor ailments were 2,149. From the 1,704 consumers, 78.3% (*n* = 1,335) had one ailment, whereas 17.5% (*n* = 298) of consumers came in with two ailments, while the remaining 4.2% (*n* = 71) were with three ailments. The majority (84.1%; *n* = 1,433) of the consumers received either one or two medicines for their minor ailments. Only 15.9% (*n* = 271) of consumers received more than three items for their treatment. The median number of medicines

Table 2. Demographics and practice characteristics of community pharmacists.

Characteristic	<i>n</i> (%)
Gender	
Male	56 (32.4)
Female	116 (67.1)
Missing data	1 (0.6)
Age group (years)	
24–30	39 (22.5)
31–40	66 (38.2)
41–50	37 (21.4)
51–60	24 (13.9)
>61	6 (3.5)
Missing data	1 (0.6)
Ethnicity	
Chinese	129 (74.6)
Malay	33 (19.1)
Indian	7 (4.0)
Others	3 (1.7)
Missing data	1 (0.6)
Working experiences in community pharmacy (years)	
≤ 5	59 (34.1)
6–10	22 (12.7)
11–15	41 (23.7)
16–20	22 (12.7)
21–25	19 (11.0)
>25	9 (5.2)
Area	
Urban	137 (79.2)
Rural	35 (20.2)
Missing data	1 (0.6)
Employment position	
Self owner and manager	45 (26.0)
Part owner and manager	32 (18.5)
Part owner but not manager	3 (1.7)
Employee or license holder	92 (53.2)
Missing data	1 (0.6)
Type of pharmacy where practicing	
Single outlet independent pharmacy	83 (48.0)
Multi-outlet independent pharmacy	45 (26.0)
Chain pharmacy	44 (25.4)
Missing data	1 (0.6)

continued

Characteristic	n (%)
Number of pharmacists in the pharmacy	
1	105 (60.7)
2	50 (28.9)
3	9 (5.2)
>3	8 (4.6)
Missing data	1 (0.6)
Opening day per week of the pharmacy ^a	
7 full days	86 (49.7)
6 full days and 1 half day	7 (4.0)
6 full days	69 (39.9)
5 full days and 1 half day	5 (2.9)
5 full days	4 (2.3)
4 full days	1 (0.6)
Missing data	1 (0.6)

^aFull day: 10 to 12 hours per day.

dispensed per consumer was 2.00 (IQR: 1.00–2.00). Besides, consumers with acute minor ailments received significantly (Mann–Whitney *U* test: $Z = -8.809$; $p < 0.001$) higher number of medicines (median = 2.00; IQR: 1.00–2.00) than those with chronic minor ailments (median = 1.00; IQR: 1.00–2.00).

Type of minor ailments managed, and non-prescription medicines dispensed by community pharmacists

Most consumers (92.3%) sought help from community pharmacists for their acute minor ailments which required within seven days of treatment duration. Meanwhile, only 7.7% of the consumers have chronic conditions which required more than seven days of treatment. The minor ailments were mostly classified as respiratory (29.1%), oral and gastrointestinal (19.9%), and dermatologic (19.6%) conditions. The most common ailments were productive cough (7.3%), fever (6.3%), and dermatitis (6.1%). Among these ailments, dermatitis was the chronic condition which required a longer treatment period (Table 3). The management of these minor ailments mostly involved the anatomical therapeutic chemical therapeutic classes of NSAIDs (14.3%), cough & cold preparations (13.6%), and antihistamines & antiallergics (11.4%). The top three most commonly dispensed medicines were cetirizine tablet (5.9%), paracetamol tablet (4.7%), and diclofenac tablet (4.2%). The majority of community pharmacists (64.8%) used Class C poisons while some (33.2%) chose to use non-scheduled poisons (over-the-counter products) for the management of minor ailments when looking specifically at the medicine classification according to the Malaysian Poison Act 1952 (Table 4).

Duration of treatment and choice of treatment

Majority of consumers ($n = 1,074$; 63.0%) had their treatment duration between 1 and 5 days, while 385 (22.6%) consumers had between 6 and 10 days of treatment duration. Only a small portion of consumers ($n = 242$; 14.2%) required a treatment duration of more than 11 days. The duration of treatment for chronic conditions was significantly longer (Mann–Whitney *U* test: $Z = -13.543$; $p < 0.001$) than acute conditions (median 21.00 days; IQR: 10.00–30.00 vs. median 5.00 days; IQR: 3.00–7.00). Considering the choice of treatment, most of the consumers

Table 3. Minor ailments managed by community pharmacists.

	Frequency (n)	Percentage (%)
Types of minor ailments^a		
Acute conditions	1572	92.3
Chronic conditions	132	7.7
Classification of minor ailments		
Respiratory conditions	563	29.1
Oral & Gastrointestinal conditions	384	19.9
Dermatologic conditions	379	19.6
Conditions causing pain	289	15.0
Miscellaneous self-care topics & issues	158	8.2
Ophthalmic/otic conditions	78	4.0
Gender-specific/sexual conditions	62	3.2
Central nervous system conditions	18	0.9
Nutritional issues	1	0.1
Minor ailments managed by community pharmacists		
Productive cough ^b	157	7.3
Fever ^b	135	6.3
Dermatitis ^c	132	6.1
Running nose ^b	121	5.6
Gastric distress ^b	101	4.7
Sore throat ^b	97	4.5
Fungal skin infections ^c	88	4.1
Diarrhea ^b	86	4.0
Flu ^b	84	3.9
Dry cough ^b	78	3.6
Tooth ache ^b	69	3.2
Conjunctivitis ^b	57	2.7
Headache ^b	55	2.6
Nasal congestion ^b	52	2.4
Constipation ^b	44	2.0
Others (96 types of minor ailments)	793	37.0

^aAcute conditions require treatment duration of 7 days or less while chronic conditions need the treatment duration of more than 7 days.

^bAcute condition.

^cChronic condition.

(75.5%, $n = 1286$) sought help from community pharmacists first to manage their minor ailments without seeing the doctors. Only 19.4% of consumers ($n = 331$) consulted the doctors for treatment before seeking help from community pharmacists.

Follow-up and treatment cost

In this study, the community pharmacists planned to follow-up on only 16.4% of the consumers for further monitoring and adjustment in treatment (Table 5). Nevertheless, the follow-up rate for chronic conditions (40.9%) was 4.23 times (odds ratio) significantly higher than acute conditions (14.3%). None of the community pharmacists charged any consultation fee or any additional charge to the consumers. All the treatments provided merely involved the medicine costs. The median cost of treatment per consumer according to the number of minor ailments was RM 13.40. The cost of treatment for consumers with three ailments

Table 4. Non-prescription medicines dispensed by community pharmacists for the management of minor ailments.

	Frequency (n)	Percentage (%)
Therapeutic class^a		
Nonsteroidal anti-inflammatory drugs (NSAIDs)	427	14.3
Cough & cold preparations	407	13.6
Antihistamines & antiallergics	339	11.4
Analgesics (non-Opioid) & antipyretics	163	5.5
Antacids, antireflux agents & antiulcerants	155	5.2
Supplements & adjuvant therapy	155	5.2
Preparations for oral ulceration & inflammation	139	4.7
Antidiarrheals	131	4.4
Anti-inflammatory enzymes	104	3.5
Topical corticosteroids	93	3.1
Others (54 types of therapeutic classes)	872	29.2
Non-prescription medicines		
Cetirizine tablet	175	5.9
Paracetamol tablet	141	4.7
Diclofenac tablet	126	4.2
Mefenamic acid capsule	96	3.2
Ibuprofen tablet	86	2.9
Diphenhydramine & ammonium chloride syrup	70	2.3
Oral rehydration salts	64	2.1
Loratadine tablet	63	2.1
Loratadine & pseudoephedrine tablet	63	2.1
Loperamide tablet/capsule	56	1.9
Naproxen tablet	56	1.9
Others (389 types of non-prescription medicines)	1,989	66.6
Medicines classification		
Class C Poisons	1,935	64.8
Non-scheduled Poisons (over the counter products)	990	33.2
Traditional medicines	53	1.8
Others	7	0.2

^aTherapeutic class based on anatomical therapeutic chemical (ATC) classification from MIMS Malaysia (<https://www.mims.com>).

Table 5. Community pharmacist planned to follow-up the consumer according to type of minor ailment.

Type of minor ailment	Planned to follow-up the consumer			Total	Chi square analysis
	Yes, n (%)	No, n (%)	Missing information, n (%)		
Acute conditions	225 (14.3)	1322 (84.1)	25 (1.6)	1572 (92.3)	$\chi^2 = 64.0$, $p < 0.001$
Chronic conditions	54 (40.9)	75 (56.8)	3 (2.3)	132 (7.7)	
Total	279 (16.4)	1397 (82.0)	28 (1.6)	1704 (100.0)	

(median = RM 19.90) was significantly higher than those with two ailments (median = RM 14.20) and one ailment (median = RM 12.50), respectively. By looking at the type of minor ailments, the average cost per consumer for chronic conditions (median = RM 27.78) was significantly greater than the acute conditions (median = RM 12.90) (Table 6).

Table 6. Average cost of treatment per consumer according to the number of minor ailments and type of minor ailments (acute versus chronic).

Number of minor ailments per consumer ^a	Average cost per consumer (RM) Median [IQR]
One ailment ^{b,d}	12.50 [7.50–20.98]
Two ailments ^{c,d}	14.20 [10.00–21.00]
Three ailments ^{b,c}	19.90 [15.00–27.80]
Overall	13.40 [8.00–21.00]
Type of minor ailments^e	
Acute conditions	12.90 [8.00–20.00]
Chronic conditions	27.78 [12.99–46.48]

SD: standard deviation; IQR: interquartile range. a. Kruskal–Wallis test showed significant difference in average cost per consumer according to number of minor ailments [$\chi^2(2) = 33.385$; $p < 0.001$]. b. Post-hoc analysis (Mann–Whitney U test) showed significant difference in average cost per consumer between patients with one ailment and three ailments ($Z = -5.232$; $p < 0.001$). c. Post-hoc analysis (Mann–Whitney U test) showed significant difference in average cost per consumer between patients with two ailments and three ailments ($Z = -4.271$; $p < 0.001$). d. Post-hoc analysis (Mann–Whitney U test) showed significant difference in average cost per consumer between patients with one ailment and two ailments ($Z = -2.692$; $p = 0.007$). e. Mann–Whitney U test showed significant difference between acute and chronic ailments ($Z = -8.809$; $p < 0.001$).

DISCUSSION

The absence of dispensing separation policy in the Malaysian private healthcare sector has driven the community pharmacists to focus more on the non-prescription medicines use for minor illnesses rather than the dispensing of prescription medicines. Nevertheless, in countries with dispensing separation, the provision of prescription medicines is the core component of the community pharmacists' practice (Mackridge *et al.*, 2017; Merks *et al.*, 2016). For instance, in North West England, three quarters (76%) of the interactions between consumers and pharmacy staff were linked with prescription medicines supply while only a minority of consumers were accessed to community pharmacists for consultation and services (Mackridge *et al.*, 2017). Besides, a study conducted in the rural area of the United Kingdom found similar trend that the primary tasks of the community pharmacists were medicines dispensing and only 23.3% of the respondents consulted the community pharmacists for their minor ailments, such as bacterial/viral infections, minor injuries, stomach problems, and allergies (Merks *et al.*, 2016).

The types of minor ailments and the medicines dispensed by the community pharmacists in this study were unique as compared to findings from other countries. The most common minor ailments found in this study were productive cough, fever, and runny nose and these ailments were mostly managed by diphenhydramine & ammonium chloride syrup, paracetamol tablet, and cetirizine tablet, respectively. Conversely, in Canada with seasonal changes, the common minor ailments encountered by community pharmacists were cold sores (34.4%), followed by insect bites (20%) and seasonal allergies (19.2%) (Mansell *et al.*, 2015). Besides, a study in Jordan showed another trend with headache as the common minor ailment and it was mainly managed by paracetamol combined with caffeine (Hammad *et al.*, 2018). Meanwhile, the community pharmacists in Baghdad were most likely to recommend diphenoxylate and loperamide as first-line treatment for acute diarrhea (Ibrahim *et al.*, 2018). In Ethiopia, a study found that oral rehydration salt and zinc (33.3%), followed by mebendazole (23.9%) were frequently used by the community

pharmacists for acute diarrhea treatment (Ayele *et al.*, 2018). The irrational use of mebendazole for acute diarrhea treatment was due to the lack of access to clinical training among the Ethiopian community pharmacists and poor community awareness (Ayele *et al.*, 2018).

In this study, the majority of the consumers with minor illnesses sought help first from the community pharmacists without consulting the physicians. This finding reflects the essential role of the Malaysian community pharmacists in the quality use of non-prescription medicines for minor ailment management. In fact, studies from overseas found a similar trend of community pharmacists' role in minor ailment management. For instance, a study conducted among Canadian consumers showed most chose pharmacists over physicians because they trusted pharmacists as well equipped to handle minor ailments and the convenience of accessing the community pharmacies (Mansell *et al.*, 2015). Only 27.2% would consult the physicians if the minor ailment services were not available (Mansell *et al.*, 2015). Besides, the changes of national policy in the United Kingdom which allows pharmacists' prescribing of a wide range of medicines had made consumers opt to visit community pharmacy for minor ailments treatment (Bojke *et al.*, 2004; Mansell *et al.*, 2015). In Malaysia, the National Medicine Policy emphasizes the models of best practice development and implementation to ensure the quality use of medicines (Ministry of Health Malaysia, 2007). However, currently, there are no local guidelines being developed to guide the community pharmacists in the provision of minor ailment treatment using non-prescription medicines. Hence, the Malaysian professional pharmacy bodies should cooperate with the Ministry of Health to establish guidelines or models of practice for minor ailments management by community pharmacists.

A lack of follow-up to the consumers by the community pharmacists for further treatment monitoring and adjustment was observed in this study. Insufficient patient medication record keeping and follow-up for consumers by the community pharmacists were similarly found in a previous study in Malaysia (Chong *et al.*, 2011). The community pharmacists need to be enhanced in their patient follow-up practice. Follow-up is essential particularly for chronic minor skin problems as found in this study, such as dermatitis and fungal skin infections, which require long-term treatment and prevention. The low following-up and record-keeping practices might be due to the lack of local guideline and module of practice. Additionally, the absence of monitoring or audit system for community pharmacists' performance evaluation is also a barrier for enhancing the minor ailments practices (Benrimoj *et al.*, 2008). For instance, in Australia, a monitoring system was developed from the establishment of the Quality Care Pharmacy Support Centre to improve the standards for the non-prescription medicines provision by the community pharmacists (Benrimoj *et al.*, 2008). Hence, the Malaysian community pharmacists should move toward establishing guidelines and a performance monitoring system for minor illnesses treatment.

Medicine affordability is one of the key components emphasized in the Malaysian National Medicine Policy (Ministry of Health Malaysia, 2007). This study revealed that the treatment costs charged by the community pharmacists were only involved medicine costs without any extra consultation fee. This could be due to the absence of a government policy that allows the

community pharmacists to charge any consultation fee for every visit by the consumers. Therefore, the expenses for receiving treatment from community pharmacists for minor ailments are lower than from the private clinic doctors. The consumers generally need to pay a consultation fee (approximately RM 30) plus the medicines cost if they seek for private clinic doctors' treatment (Ismail, 2018). However, this study found an affordable cost of treatment (median RM 13.40) for minor ailments management in community pharmacies. A study in North East Scotland and East Anglia showed a similar trend whereby the mean overall cost per consultation was significantly lower for community pharmacies (£29.30) than general practitioner (£82.34) (Watson *et al.*, 2015).

LIMITATIONS

The clinical outcomes of the consumers who received treatment for minor ailments were not assessed in this study. Besides, this study was conducted under a condition whereby there were no local guidelines to assist the community pharmacists in the management of minor ailment. Therefore, future study should focus on establishing and implementing guidelines or modules of practice for the minor ailments management in the Malaysian community pharmacy setting and evaluating the clinical outcomes of the treatment. Additionally, this study did not assess whether counseling was provided to the consumers for the minor ailment treatment. The provision of counseling during minor ailment needs to be evaluated in future study as well.

CONCLUSION

The community pharmacists actively managed the minor ailments by using a wide range of non-prescription medicines with affordable cost of treatment. Nevertheless, there was a lack of follow-up for the consumers who received the treatment. Therefore, guidelines, module of practices, and an audit system should be established to further improve the minor ailments management practices by the community pharmacists.

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CONFLICTS OF INTEREST

The authors declared that they have no conflict of interest.

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APPENDIX**Data collection form****Instructions:**

- Please mark (√) on the relevant boxes or write your response on the space provided.

Section 1: Demographic and practice characteristics of the community pharmacists

1. Age:
2. Gender: Male Female
3. Ethnicity: Malay Chinese Indian Others
4. Years of working experience in community pharmacy setting: years
5. Area where community pharmacy situated (an urban area is defined as a local municipal area with a population of more than 10,000 people)
 - Urban
 - Rural
6. Employment position:
 - Self owner and manager
 - Part owner and manager
 - Part owner but not manager
 - Employee or license holder
7. Type of community pharmacy where practicing:
 - Single outlet independent pharmacy
 - Multi outlet independent pharmacy (2–3 outlets)
 - Chain pharmacy
8. Number of practicing pharmacist in your community pharmacy:
9. Opening hours of the community pharmacy: days per week; hours per day

Section 2: Information on minor ailment and dispensed non-prescription medicines

Consumer no. _____

Minor ailment: _____

Information on the dispensed non-prescription medicines:

Item No.	Name of medication	Dosage	Frequency	Duration	Quantity
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

The consumer visited the community pharmacy without seeing a doctor first?

Yes No

Total items dispensed charges: RM.....

Consultation fee : Yes, please state MYR (RM)

No

Additional charges : Yes, please state MYR (RM)

No

Do you plan to follow up the consumer? Yes No