JPHSR Journal of Pharmaceutical Health Services Research

ROYAL PHARMACEUTICAL SOCIETY

Short Communication

JPHS 2020, 11; 419–422

Received April 28, 2020
Accepted July 16, 2020
DOI 10.1111/jphs.12380
ISSN 1759-8885

# Barriers and facilitators to provision of written consumer medicines information among community pharmacists in Malaysia: a cross-sectional study

Omotayo Fatokun[a], Xin Yi Mooi[a], Osama Helweh[a] and Mogana Rajagopal[b]

[a]Department of Clinical Pharmacy, Faculty of Pharmaceutical Sciences, UCSI University, Kuala Lumpur and [b]Department of Pharmaceutical Biology, Faculty of Pharmaceutical Sciences, UCSI University, Kuala Lumpur, Malaysia

## Abstract

**Objectives** This study examined the barriers and facilitators to the provision of consumer medication information leaflets (CMIL) by community pharmacists in Malaysia and assessed the relationship between the participants' characteristics and provision of CMIL.
**Methods** This was a cross-sectional self-administered questionnaire survey conducted among pharmacists working in randomly selected community pharmacies in the Federal Territories of Kuala Lumpur and Putrajaya, and the State of Selangor, Malaysia. Multiple response analysis was conducted to examine the barriers and facilitators. Chi-square test was used to assess the relationship between the participants' characteristics and provision of CMIL. IBM SPSS Statistics version 23 software was used for all statistical analysis. Statistical significance was set at $P < 0.05$.
**Key findings** A total of 162 participants were involved in the study. Response rate was 77.5% (162 out of 209) and completion rate 100%. The two most frequently reported barriers to non-provision of CMIL were because the customer has taken the medicine previously (29.4%) and the customer receives all the information they need verbally (20.0%). The two most frequently reported facilitators to the provision of CMIL were because the community pharmacists felt they have a duty of care to inform the customer about their medicine (16.3%) and the customer has a right to information about their medicine (15.6%). There was a significant association between the provision of CMIL and participants educational level ($P = 0.005$) and awareness of CMIL ($P < 0.001$).
**Conclusions** The key barriers to the provision of CMIL by the community pharmacists appeared to be related to attitudinal factors, while key facilitators appeared to be related to the professional obligations of the community pharmacists. Increased awareness and educational strategies would be important in improving the provision of CMIL by community pharmacists in Malaysia.
**Keywords** barriers; facilitators; community pharmacists; consumers; Malaysia; written medicines information

## Introduction

Consumer access to appropriate written information on medicines is important to ensuring safe and effective use.[1] In 2011, Malaysia introduced standardised written medicines information, known as 'consumer medication information leaflets' (CMIL) in order to enhance consumers knowledge about their medicines.[2] Community pharmacists are well positioned to increase access to written medicines information (WMI) during prescription dispensing. However, studies[3,4] suggest that the provision of WMI to consumers in Malaysia is limited. This study examined the barriers and facilitators to the provision of CMIL by community pharmacists in Malaysia and assessed the relationship between the participants' characteristics and provision of CMIL.

## Methods

This self-administered questionnaire survey was conducted among registered pharmacists in randomly selected community pharmacies in the Federal Territories of Kuala Lumpur and

**Correspondence:** Omotayo Fatokun, Department of Clinical Pharmacy, Faculty of Pharmaceutical Sciences, UCSI University, Jalan Menera Gading, Cheras 56000, Kuala Lumpur, Malaysia.
E-mail: tayofatokun@gmail.com

Putrajaya, and the State of Selangor, Malaysia. The list of 415 community pharmacies in the study areas obtained from the website of the Malaysian pharmaceutical service programme was used as the sampling frame.[5] Cochran formula,[6] with correction for the study population was used to obtain a sample size of 209. The questionnaire was developed from a previously validated questionnaire.[7] The questionnaire was pre-tested among 10 community pharmacists in the study areas. All 209 randomly selected pharmacies were visited for distribution of the questionnaire to the pharmacists for self-administration. The questionnaire included questions on demographic and practice characteristics, awareness of CMIL, provision of CMIL (Ever provided a CMIL: Yes/No), reasons for providing (facilitators) and not providing (barriers) CMIL. Facilitators and barriers were assessed by multiple response items where respondents can select more than one item. Data were collected between September 2018 and November 2018. Ethical approval was obtained from the Medical Research and Ethics Committee, Ministry of Health Malaysia (NMRR-18-1890-40332). Written consent was obtained before the commencement of the study. Multiple response analysis was conducted to examine the barriers and facilitators. Chi-square test was used to assess the relationship between participants' characteristics and provision of CMIL. IBM SPSS Statistics (version 23) software (IBM Corporation, Armonk, NY, USA) was used for all statistical analysis. Statistical significance was set at $P < 0.05$.

## Results

The response rate was 77.5% (162 out of 209) and completion rate 100%. Table 1 presents the participants characteristics and their relationships with provision of CMIL. Those who had Master degree in Pharmacy were more likely to provide CMIL compared to those who had Bachelor degree (72.0% versus 40.9%, $P = 0.005$). Those who were not aware of CMIL were less likely to provide CMIL compare to those were aware (92.5% versus 35.8%, $P < 0.001$). Table 2 presents the results of the barriers and facilitators to the provision of CMIL. The two most frequently reported barriers to the provision of CMIL were because *the customer has taken the medicine previously* (29.4%) and *the customer receives all the information they need verbally* (20.0%). The two most frequently reported facilitators to the provision of CMIL were because the community pharmacists felt they *have a duty of care to inform the customer about their medicine* (16.3%) and the *customer has a right to information about their medicine* (15.6%).

**Table 1** Participants characteristics and their relationship with the provision of CMIL ($N = 162$)

| Characteristics | Total, *n* (%) | Provision of CMIL, *n* (%) | | *P*-value† |
|---|---|---|---|---|
| | | No (*n* = 88) | Yes (*n* = 74) | |
| Gender | | | | |
| Male | 58 (35.8) | 29 (50.0) | 29 (50.0) | 0.417 |
| Female | 104 (64.2) | 59 (56.7) | 45 (43.3) | |
| Age (years) | | | | |
| 20–30 | 93 (57.4) | 49 (52.7) | 44 (47.3) | 0.118 |
| 31–40 | 44 (27.2) | 20 (45.5) | 24 (54.5) | |
| 41–50 | 17 (10.5) | 12 (70.6) | 5 (9.4) | |
| 51–60 | 7 (4.3) | 6 (85.7) | 1 (14.3) | |
| Above 60 | 1 (0.6) | 1 (100.0) | 0 (0) | |
| Race | | | | |
| Malay | 25 (15.4) | 16 (64.0) | 9 (36.0) | 0.564 |
| Chinese | 127 (78.4) | 67 (52.8) | 60 (47.2) | |
| Indian | 10 (6.2) | 5 (50) | 5 (50) | |
| Number of years of practice | | | | |
| <1 | 17 (10.5) | 13 (76.5) | 4 (23.5) | 0.130 |
| 1–4 | 62 (38.3) | 28 (45.2) | 34 (54.8) | |
| 5–9 | 39 (24.1) | 22 (56.4%) | 17 (43.6) | |
| >10 | 44 (27.2) | 25 (56.8) | 19 (43.2) | |
| Highest educational degree in Pharmacy | | | | |
| Bachelor | 137 (84.6) | 81 (59.1) | 56 (40.9) | 0.005* |
| Master | 25 (15.4) | 7 (28.0) | 18 (72.0) | |
| Type of pharmacy setting | | | | |
| Independent | 59 (36.4) | 35 (59.3) | 24 (40.7) | 0.413 |
| Chain | 103 (63.6) | 53 (51.5) | 50 (48.5) | |
| Number of pharmacists working per shift | | | | |
| 1 | 92 (56.8) | 54 (58.7) | 38 (41.3) | 0.268 |
| 2 | 54 (33.3) | 28 (51.9) | 26 (48.1) | |
| >2 | 16 (9.9) | 6 (37.5) | 10 (62.5) | |
| Awareness of consumer medication leaflets (CMIL) | | | | |
| No | 53 (32.7) | 49 (92.5) | 4 (7.5) | <0.001* |
| Yes | 109 (67.3) | 39 (35.8) | 70 (64.2) | |

*Statistically significant ($P < 0.05$).
†Chi-square test of independence.

## Discussion

This is the first study to examine the provision of CMIL among community pharmacists in Malaysia. While no previous study was available for comparison in a similar setting, the finding that customers had previously taken the medicine as the most reported barrier to CMIL was consistent with similar studies among community pharmacists in Australia.[8,9] and New Zealand.[10] The reason for this finding could be that there is a notion that, since the patient has already taken the medication previously, the patient is already familiar with the medicine and therefore no further information is needed. However, given that there may have been some changes to the CMIL between each repeat prescription, it may still be appropriate to continue providing CMIL.[10] The finding that *the customers receive all the information verbally* as a reason for not providing CMIL was not found to be a prominent barrier in similar studies in other countries.[9,10] Verbal counselling alone is insufficient to provide all the information about a medicine to a consumer[7] It is therefore vital that community pharmacists provide consumers with written information that can be read by consumers whenever appropriate.[7]

Having *a duty of care to inform the customer about their medicine* and *the customer has a right to information about their medicine* were found to be the main reasons for providing CMIL by the community pharmacists. While no previous study is available in a similar setting for comparison, these results agree with those of another study in Australia,[9] and are likely due to the professional obligations of the pharmacists. The result showing that those with a higher

**Table 2** Barriers and facilitators to the provision of CMIL

| Barriers* | No. of response (%) | Facilitators* | No. of response (%) |
|---|---|---|---|
| The customer has taken the medicine previously | 119 (29.4) | I have a duty of care to inform the customer about their medicine | 50 (16.3) |
| Customer receives all the information they need verbally | 81 (20.0) | The customer has a right to information about their medicine | 48 (15.6) |
| The customer has difficulty with understanding or reading the content of the CMIL | 77 (19.0) | I want the customer to make an informed choice about their medicine to aid adherence | 46 (15.0) |
| The medicine is for short term treatment (less than 2 weeks) | 41 (10.1) | The customer requests a CMIL | 44 (14.3) |
| I do not always have time to spend with the customer | 26 (6.4) | I want to reinforce the benefits of the medicine and how to take it | 42 (13.7) |
| Other[¶] | 24 (5.9) | To provide information for a carer/parent | 36 (11.7) |
| The medicine is being used for a purpose other than indicated | 17 (4.2) | I want to check that I did not forget to verbally provide any medicine information | 25 (8.1) |
| I am concerned the customer will not take the medicine | 11 (2.7) | The customer had a bad experience with a medicine in the past | 13 (4.2) |
| The doctor will provide a CMIL | 7 (1.7) | Other[¶] | 3 (1.0) |
| I do not believe the CMIL is useful to the patient | 2 (0.5) | | |
| Total Responses[†] | 405 (100)[§] | Total Responses[‡] | 307 (100)[§] |

CMIL, consumer medication information leaflet.
*Multiple response items.
[†]Comprised 215 and 190 responses from non-providers ($n$ = 88) and providers ($n$ = 74) of CMIL respectively.
[‡]Responses from only providers ($n$ = 74) of CMIL.
[§]Percentages have been corrected to the nearest one decimal place and total percentage may not add to exactly 100%.
[¶]Other (Barriers) include no time (3), non-cooperation of patients (1), lack of access (7), lack of awareness (4), provide package insert (1), too well known (1), not a culture in current practice (1), patient not capable (1), not relevant (1) and reasons not specified (4).
[††]Other (Facilitators) include to promote roles a professional pharmacist (1), to make sure patient understand what they are taking (1), not specified (1).

degree in Pharmacy were more likely to provide CMIL to customers may be attributed to improved communication skills and confidence in the provision of pharmaceutical care services that may have been gained during postgraduate study. Therefore, continuing professional development among community pharmacists may be important in increasing the provision of CMIL. This study indicates that those who are not aware of CMIL would not be able to provide CMIL, as shown by the result of the association between awareness and provision of CMIL. Increased awareness of CMIL is therefore crucial to improving the provision of CMIL among community pharmacists in Malaysia.

This study has some limitations. First, the participants were from one part of Malaysia. Therefore, the results must be interpreted cautiously if they are extrapolated to other areas. Second, because all data were self-reported, the results may suffer from social desirability bias. Third, the age distribution of the participants was not even but skewed towards younger age. Therefore, the findings may not be generalizable to all age groups.

## Conclusions

The key barriers to the provision of CMIL by the community pharmacists appeared to be related to attitudinal factors, while key facilitators appeared to be related to the professional obligations of the community pharmacists. Increased awareness and educational strategies will be important in improving the provision of CMIL by community pharmacists in Malaysia.

## Declarations

### Conflict of interest

The Author(s) declare(s) that they have no conflicts of interest to disclose.

### Funding

This research was financially supported by the UCSI University's Centre of Excellence for Research, Value Innovation and Entrepreneurship (CERVIE) through the Pioneer Scientist Incentive Fund (PSIF-In-FPS-014).

### Acknowledgements

The authors are very grateful to all the community pharmacists for their participation in the study.

### Authors' contributions

OF conceptualised the study. OF, OH and XYM designed the study. XYM collected the data. OF, XYM, OH and MR

wrote the manuscript, contributed to the analysis and interpretation of results. All authors approved final manuscript and state that they had complete access to the study data that support the publication.

## References


1. U.S. Food and Drug Administration. *Useful Written Consumer Medication Information (CMI)*. Rockville, MD: U.S. Food and Drug Administration, 2006.
2. National Pharmaceutical Regulatory Agency. *Garispanduan Pelaksanaan Risalah Maklumat Ubat Untuk Pengguna (RiMUP) [Implementation Guidelines for Consumer Medication Information Leaflet]*. Selagor, Malaysia: National Pharmaceutical Regulatory Agency, 2019.
3. Hassali MA *et al*. *A National Survey on the Use of Medicines (NSUM) yy Malaysian Consumers*. Selangor, Malaysia: Pharmaceutical Services Division, Ministry of Health Malaysia, 2013.
4. Hassali MA, Saleem F. *A National Survey on the Use of Medicines (NSUM) by Malaysian Consumers*. Selangor, Malaysia: Pharmaceutical Services Division, Ministry of Health Malaysia, 2016.
5. Pharmaceutical Services Programme. *List of Training Premises for Provisionally Registered Pharmacist (PRP)* [online]. Selangor, Malaysia: Pharmaceutical Services Program, Ministry of Health Malaysia, 2018.
6. Bartlett JE *et al*. Organizational research: determining appropriate sample size in survey research. *Info Technol Learn Perf J* 2001; 19: 43–46.
7. Aslani P *et al*. *Investigating Consumer Medicine Information (I-CMI) Project-Final Report*. The Pharmacy Guild of Australia and Department of Health and Ageing, 2010. http://6cpa.com.au/wp-content/uploads/Investigating-Consumer-Medicine-Information-I-CMI-Project-Full-Final-Report-Part-5-Final-Report.pdf (accessed 26 December 2019).
8. Aslani P *et al*. *Investigating Consumer Medicine Information (I-CMI) Project. Full Final Report Part 1*. The Pharmacy Guild of Australia and Department of Health and Ageing, 2010. http://6cpa.com.au/wp-content/uploads/Investigating-Consumer-Medicine-Information-I-CMI-Project-Full-Final-Report-Part-1.pdf (accessed 26 December 2019).
9. Hamrosi KK *et al*. Pharmacist, general practitioner and consumer use of written medicine information in Australia: are they on the same page? *Res Social Adm Pharm* 2014; 10: 656–668.
10. Young A *et al*. Patient-focused medicines information: general practitioners' and pharmacists' views on websites and leaflets. *Health Educ J* 2019; 78: 340–351.