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IMPLEMENTATION OF THE BENCHMARKING GUIDELINES ON COMMUNITY PHARMACIES IN MALAYSIA

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The International Pharmaceutical Federation (FIP) adopted a set of Good Pharmacy Practice (GPP) guidelines in 1993 and recommended that the regulatory bodies of individual countries should adapt the guidelines in accordance with their resources. The Malaysian Pharmaceutical Society (MPS) introduced its benchmarking guidelines (BMG) in 2003 as a means to raise the professional standards of the community pharmacy practice in Malaysia. Therefore, this study aimed to determine the extent to which community pharmacies have adopted the BMG. A cross-sectional study was conducted using mail questionnaires, which were posted to all community pharmacies in Malaysia. A total of 371 questionnaires (29.2%) were returned. Only 51.0% of the respondents were aware of the BMG. The extent of compliance with the guidelines was 62.6±21.1% (mean ± standard deviation), with a median of 65%. The type and ownership of the community pharmacies were significantly associated with compliance with certain aspects of the guidelines. The main problem in complying with the BMG was financial constraint, and this problem was more likely to occur with independent than with chain pharmacies. However, the respondents generally agreed that most aspects of the BMG could be achieved in less than five years. Since the level of awareness among community pharmacists regarding the BMG is low, the MPS should promote or publicise the BMG further. The BMG should be reviewed before being used as part of the criteria for the accreditation of community pharmacies, as proposed by the MPS to further improve the quality and standards of community pharmacies in Malaysia.

Keywords: *Community pharmacy, Pharmacist, Benchmarking guidelines, Compliance, Malaysia*

INTRODUCTION

The FIP introduced the international guidelines for GPP in 1993 and believed that these guidelines should be adapted by national and international pharmaceutical organisations and governments (FIP 1997). The guidelines covered health promotion, supply of medicines and other health care products, patient self-care, and influence on prescribing and medicine use.

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However, in developing countries, the practice of pharmacy varies from one country to another, and their health care systems may not be well-developed to cover every aspect stated in the GPP guidelines. Therefore, the FIP has developed another set of GPP guidelines specifically for developing countries. These guidelines provide a step-wise approach for their implementation according to the resources available and focus on areas that are applicable and most relevant to pharmacy practice in developing countries. The guidelines consist of four major areas: personnel, training, standards, legislation and national drug policy (FIP 1998).

National pharmaceutical associations of individual countries are encouraged to adapt the GPP guidelines (FIP 1998). The South African Pharmacy Council (SAPC) has its own GPP Standards to ascertain the quality of services provided by pharmacists in community settings (SAPC 2004). The GPP Standards in South Africa have been incorporated into its Pharmacy Act 53 of 1974 and it is mandatory for all pharmacists to comply with the Standards. The Ministry of Health (MOH) in the United Arab Emirates (UAE) has also developed its own guidelines and minimum standards for GPP in pharmacies (Ministry of Health, UAE 2003). The guidelines were being employed as the basis for inspection by enforcement officers.

The Pharmacy Guild of Australia together with the Pharmaceutical Society of Australia developed the Quality Care Pharmacy Program (QCPP) for community pharmacies to create a quality assurance programme that would raise the standard of services provided and improve business practices (Anon 2008). Those pharmacies that register to participate in the QCPP will be assessed against the QCPP standards, and if they fulfil the requirements, they will be accredited. The Australian government recognises the value of the QCPP in providing better quality health services and has made funds available as financial incentives to encourage pharmacies to be accredited (Anon 2008). An evaluation of the potential benefits from the QCPP showed that the QCPP had positive effects on community pharmacies' performance (Australian College of Pharmacy Practice and Management 2005).

In the United Kingdom (UK), a series of manuals entitled "Model standards for self-audit in community pharmacies in England" was published to enable community pharmacists to self-audit their pharmacies (Department of Pharmacy Policy and Practice 1994). These documents define the main aspects of professional services and pharmacy

practice with checklists of standards of practice, so that all the community pharmacies will be able to self-assess their own standards and consequently identify areas of practice that they could improve. In January 2005, mandatory Standard Operating Procedures (SOPs) for dispensing medications were introduced in community and hospital pharmacies as a response to the GPP guidelines (Gross 2004).

In an effort to meet the goals of the GPP in community pharmacy settings, the MPS has prepared a set of BMG for community pharmacy practice in Malaysia. These guidelines cover five main areas: premises, equipment and accessories, personnel, references and SOPs (MPS 2003). Subsequently, the Pharmaceutical Services Division of MOH published a set of guidelines that serve as part of the requirements to be followed by community pharmacies, and especially for starting a new community pharmacy (Jawatankuasa Kerja Pelesenan dan Pemeriksaan Farmasi 2005).

The implementation of the BMG is still at its incipient stage in Malaysia. Thus far, no published study has been found to assess community pharmacies' compliance towards these guidelines in Malaysia. This study was conducted to determine the extent to which community pharmacies have complied with the BMG and to obtain an estimate of the time frame required for these guidelines to be adopted. In addition, this study also served as a platform for community pharmacists to voice their opinion concerning the BMG.

METHODS

A cross-sectional study was conducted on community pharmacies in Malaysia. Data was collected via mail questionnaires that were sent to all community pharmacies. Pharmacies that had ceased operation or changed locations without a forwarding address were excluded.

A list of registered community pharmacies was obtained from the MPS and counter-checked with all community pharmacies advertised in the Yellow Pages 2006. In addition, a list of chain community pharmacy outlets was requested from the head office of chain pharmacies. The addresses and contact numbers of all the community pharmacies were compiled and used as the sampling frame.

A questionnaire was developed based on criteria in the BMG for community pharmacy practice (MPS 2003). The questionnaire was reviewed by five experienced community pharmacists. The questionnaire

was modified based on comments by the community pharmacists and then used in a pilot study, which was conducted on 15 community pharmacists who self-filled the questionnaire. Any problems encountered or queries made by the respondents during the pilot study were taken into consideration in formulating the final questionnaire.

The questionnaire, together with a "Pharmacist's Information Sheet" to explain the objectives and methodology of the study, plus a self-addressed envelope were sent to a majority of community pharmacies in Malaysia. The pharmacist was requested to return the completed questionnaire by post to the researcher using the self-addressed envelope or via facsimile within four weeks. At the end of the four-week period, a researcher telephoned the pharmacies that had not returned the questionnaire. A second questionnaire was sent to those pharmacies that had not received, lost or misplaced the questionnaire. The head offices of chain community pharmacies were contacted to help encourage their pharmacists to fill and return the questionnaire. Only the researchers had access to the serial numbers of the community pharmacies. These numbers were allocated for the purpose of contacting the pharmacies that had not responded. However, no name or identification of the pharmacists or pharmacies was indicated in the results. The deadline for returning the questionnaire was extended from the end of December 2006 to February 2007 to improve the response rate.

All the data obtained were analysed using the Statistical Package for the Social Sciences (SPSS) software, version 15.0. Descriptive analysis was performed on all the data collected to obtain the frequencies and percentages of occurrence. For numeric data, the means, standard deviations, ranges and medians were generated. Factors that may be associated with compliance to the benchmarking requirements were determined using Pearson's Chi-square test. P-value of < 0.05 was considered as statistically significant.

RESULTS AND DISCUSSION

Response Rate

A total of 1437 questionnaires were sent to all community pharmacies in Malaysia but after two weeks, 91 questionnaires were returned due to invalid addresses. Twelve community pharmacies had ceased operation, and 13 were not operating as community pharmacies. The head offices of

chain community pharmacies informed that 50 of the chain pharmacies did not have a pharmacist, and hence these outlets were excluded from the study, leaving a total of 1271 community pharmacies. Of those, 371 questionnaires were returned, giving a response rate of 29.2% (371/1271). Analysis of the response rate from each state showed no significant difference between the states (χ^2 = 15.330, p = 0.287). Therefore, the sample of respondents reflects the distribution of community pharmacies throughout Malaysia.

Demographic Data of Respondents

The demographic data of respondents are shown in Table 1. The age of the respondents ranged between 25 and 65, with a mean$\pm$SD of 37.3$\pm$8.9 years old. The median age of the respondents was 35 years old. The ethnic group classified as "Others" included Bidayu, Iranun, Sino-Dusun and Melanau. The demographic data of respondents reflected the national picture of the pharmacy profession in Malaysia, where a majority of community pharmacists are female, aged between 31 and 40 and Chinese. However, the smallest group of respondents was within the age range of 21 to 25 (1.9%), probably because this age group of pharmacists is currently working in the government sector to fulfil the compulsory service requirement implemented since September 2004 (Pharmaceutical Services Division 2005).

The distribution of the respondents' community pharmacies by states is shown in Figure 1. This was similar to the proportion of community pharmacies located in each state. The distribution of community pharmacies also corresponded to the total population and growth rate for the respective regions in Malaysia (Department of Statistics Malaysia 2000). However, community pharmacies were not evenly distributed within each state, as they tend to concentrate in the capital city of each state. Of the 371 respondents, 53.1% were from cities (capital cities of each state), 22.4% from big towns (defined as areas with population of more than 50,000) and 24.5% from small towns (those with population of 10,000 or more). Most of the community pharmacies were located at high street (41.1%) and residential areas (36.5%) as these were the areas nearer to the general public and hence more convenient for purchasing medications. Only 17.5% were located in shopping complexes, and these were mainly chain pharmacies (56.9%) as the higher cost of rental was probably affordable only for corporate bodies.

Table 1: Demographic data of respondents.

Particulars of respondents	Number of respondents (%)
Gender (n = 370)	
Female	212 (57.3%)
Male	158 (42.7%)
Age (n = 36)	
21–25	7 (1.9)
26–30	91 (25.1%)
31–40	147 (40.5%)
41–50	81 (22.3%)
51–60	31 (8.5%)
> 60	8 (2.2%)
> 60	6 (1.7%)
Ethnic group (n = 370)	
Malay	85 (23.0%)
Chinese	252 (68.1%)
Indian	22 (5.9%)
Others	11 (3.0%)
Types of employment (n = 369)	
Self-employment/Share holder	203 (55.0%)
Full time employee	160 (43.4%)
Part time/Locum	6 (1.6%)

Community pharmacies were classified into independent or chain pharmacies, as well as by the types of ownership (Fig. 2). Independent pharmacies owned by a pharmacist constituted the highest proportion of the respondents (59.5%). This may not reflect the type of community pharmacies in Malaysia but merely indicate that pharmacists working in independent pharmacies were more interested in the current community pharmacy practice in Malaysia and hence took the trouble to participate in this study. Only a small proportion of the respondents (18.9%) were pharmacists from chain pharmacies owned by corporate bodies. This was probably due to the restrictions imposed by some corporate bodies, where prior approval or permission from their management or head office is required before the employees can respond to any survey or disclose any information.

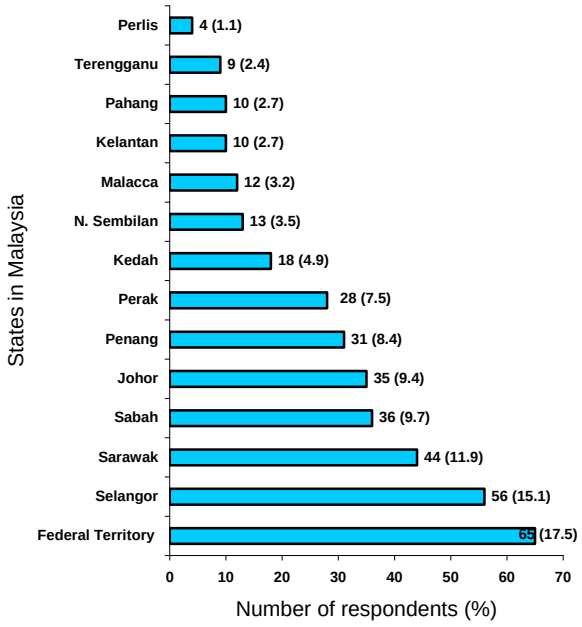

Fig. 1: Location of community pharmacies by states (n = 371).

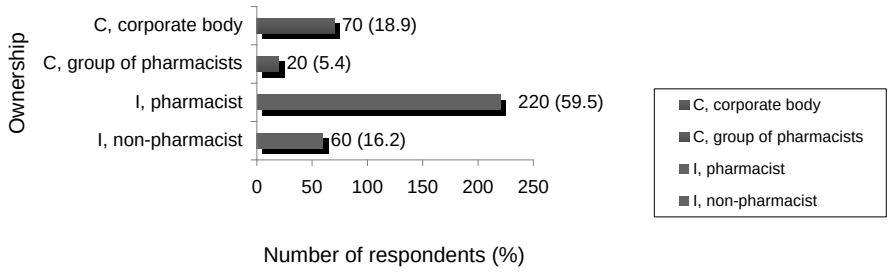

Fig. 2: Types of pharmacies and ownership (n = 370).

Note: C = Chain pharmacies; I = Independent

The different types of services provided by the community pharmacies are shown in Figure 3. Services classified as others included physiotherapy, advice on dietary plans for special conditions, weight management, laboratory and diagnostic tests, wound dressings and breast prosthesis. The services provided were mainly drug related, which included the dispensing of medications, consultation on medical problems and health supplements as well as providing drug information since these were the main responsibilities of pharmacists. The provision of extemporaneous preparation has been reduced substantially due to the emergence of convenient and readily available pre-packed products.

Most of the community pharmacies had only one pharmacist (82.5%, n = 306) but between two and six other staff (77.9%). Only 16.2% of the community pharmacies had two or three pharmacists. If dispensing separation occurred, most of the community pharmacies would have had to recruit more pharmacists to cover the longer opening hours and also to cope with the increase in prescriptions.

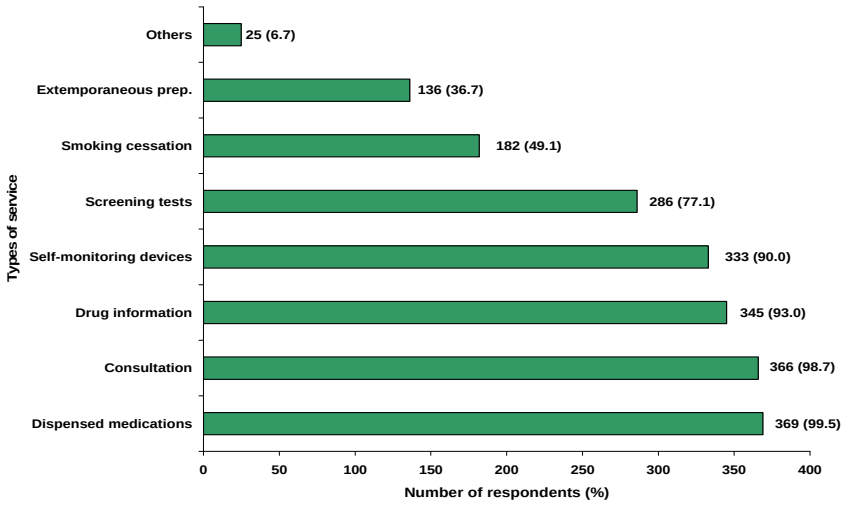

Fig. 3: Types of service provided by the community pharmacies (n = 371).

Note: The percentage may exceed 100% as the respondents can provide more than one type of services.

Compliance to the BMG

Only 51.0% of the respondents were aware that the BMG for community pharmacy were available. This is probably due to insufficient publicity about the guidelines as it is only available on the MPS website (MPS 2003) whereas the guidelines by the MOH were published only in 2005. Of the 221 respondents who indicated their extent of compliance to the BMG, only 3.6% complied with the guidelines more than 90% while 13.1% complied more than 80% and 67.4% were more than 50% compliant. The mean$\pm$SD extent of compliance to the guidelines was 62.6$\pm$21.1%, with a median of 65%. Compliance to the BMG was not very high, and hence more efforts should be implemented by the authorities concerned with encouraging better compliance.

Premise Requirements

Compliance with the premise requirements in the benchmarking guidelines is shown in Table 2. It was found that more than 50% of the pharmacies had no screening area with signage, which was largely attributable to the fact that 22.9% of the pharmacies did not provide screening test services. A designated waiting area for the various pharmacy functions also had a low percentage of compliance (50.5%), and the reason given was a lack of additional space. Only the requirement of arranging merchandise according to categories had a compliance rate of more than 95%, probably because this is also part of the legal requirements in Malaysia (Poisons Act 1952). In addition, the arrangement of merchandise according to categories would also benefit the pharmacies in terms of convenience to the pharmacists, staff and the customers. Requirements that need renovation or additional space had a low compliance rate, as most of the respondents reported a lack of space and budget constraints. The availability of designated waiting areas and entrances accessible to wheelchairs had the lowest compliance rates, 50.5% and 55.8%, respectively. Since dispensing separation had not been implemented in Malaysia, the limited number of customers or patients served by each community pharmacy per day did not necessitate a waiting area. Generally, community pharmacies did not have many customers in wheelchairs and therefore the respondents felt that it was not necessary to renovate the pharmacy for this purpose.

Table 2: Percentage of compliance with premise requirements in BMG.

BMG (Premises)	Number of respondents		
	Yes (%)	No (%)	Time frame to achieve*
Total dispensing area min. 200 sq. ft.	278 (75.3)	91 (24.7)	>2 but <5years
"Pharmacy" is larger than advertisement on signboard	309 (84.0)	59 (16.0)	Anytime
Display notices of services provided	230 (62.2)	140 (37.8)	Anytime
Display name of pharmacist(s) on duty	212 (57.5)	157 (42.5)	Anytime
Merchandise are arranged according to categories	353 (95.7)	16 (4.3)	6–12 months
Separate display area for internal & external medicines	316 (86.1)	51 (13.9)	Anytime
Designated private counselling area	258 (69.9)	111 (30.1)	6–12 months
Designated waiting area	186 (50.5)	182 (49.5)	>2 but <5years
Designated wet compounding area	276 (74.8)	93 (25.2)	>1 but <2years
Designated dry compounding area	329 (89.2)	39 (10.5)	6-12 months
Clean dispensing area with "Prescription" sign	276 (75.0)	92 (25.0)	Anytime
Screening area with "Screening test" sign	155 (42.1)	213 (57.9)	Anytime
Have additional security measure	236 (64.3)	131 (35.7)	6–12 months
Entrance accessible to wheelchairs	206 (55.8)	163 (44.2)	Anytime

*Note: Time frame to achieve: An estimated time frame given by a majority of the respondents to comply with the guideline requirements.

The locations of the community pharmacies were divided into city (196) and non-city (173). There was no significant association in compliance to most of the premise requirements between community pharmacies in the cities and non-city areas (big or small towns) except for having designated waiting areas (43.9 versus 57.8%, $p = 0.006$). This may be due to the relatively lower rental and expenses in non-city areas as compared to the cities, and hence, the community pharmacies could afford a bigger shop space with a waiting area.

Equipment Requirements

Compliance with the equipment requirements in the BMG is shown in Table 3. It was found that more than 50% of the participating pharmacies (66.6%) had no measuring cylinders, and the reason given was that the pharmacy did not supply any extemporaneous preparations. Even though 87.3% of the respondents had computers, less than half of them used the computer to keep patient medical records or had any pharmacy information software. The reason given was budget constraints, as this software is expensive and also there is currently no specific software available in the market. Another reason mentioned was the absence of dispensing separation, and hence most pharmacies did not have many regular customers and also rarely received any prescriptions. Community pharmacies in the Klang Valley received an average of 1.8 prescriptions per day only (Chua, Cheong and Teh 2002). The computers were mainly used for business purposes such as inventory or stock control (74.5%). Only 10.5% of the respondents said that their pharmacies did not have a refrigerator, as they did not keep products that required refrigeration, or they had budget constraints.

Table 3: Percentage of compliance with equipment requirements of the BMG.

BMG (Equipment)	Number of respondents		
	Yes (%)	No (%)	Time frame to achieve*
Tile/ glass slabs with spatula	199 (53.9)	170 (46.1)	Anytime
Measuring cylinders of various sizes	123 (33.4)	245 (66.6)	Anytime
Cabinets for storage of documents/ records	349 (94.6)	20 (5.4)	1–3 months
Availability of computers	322 (87.3)	47 (12.7)	6–12 months
Computers for inventory/ stock control	275 (74.5)	94 (25.5)	6–12 months
Computers with pharmacy information software	132 (36.0)	235 (64.0)	>2 but <5years
Computers with patient medical records	138 (37.5)	230 (62.5)	>2 but <5years
Printers for labels, leaflets or printed materials	205 (55.9)	162 (44.2)	6–12months
Suitable means of counting tablets/ capsules	360 (97.6)	9 (2.4)	N/A
Plastic bottles/ glass bottles for dispensing	355 (96.5)	13 (3.5)	N/A
Refrigerator maintained at 2°C–8°C	331 (89.5)	39(10.5)	>2 but <5years

*Note: Time frame to achieve: An estimated time frame given by a majority of the respondents to comply with the guideline requirement.

Personnel Requirements

Table 4 shows the compliance of the respondents regarding the personnel and reference requirements in the BMG. Half of the respondents did not wear name tags (48.5%), as there was only one pharmacist in the pharmacy and hence it was presumed that most of the regular customers were able to recognise them. One of the respondents stated that she did not want to wear a name tag to prevent harassment. Formal training for pharmacy assistants was conducted by only half of the respondents (49.6%), as currently there is no "formal training" or courses available or accredited by the government. In addition, some of the pharmacy staff was not involved in the sales of pharmacy items, and hence, no formal training was required. Some of the respondents also did not understand the definition of formal training and 10.1% stated that they provided only informal training to their assistants.

Reference Requirements

More than half of the community pharmacies did not have soft copies of references due to unavailability of computers and internet access, especially in the smaller towns. Some stated that they could not afford soft copies of references, as they were expensive. However, more than 90% of the respondents had hard copies of references such as the Malaysia Index of Medical Specialities (MIMS) and the British National Formulary (BNF) as these were relatively cheap.

SOPs

Compliance with the written or hardcopy SOP requirements in the BMG is also shown in Table 4. Generally, most of the requirements under the SOPs section were achieved by a majority of the community pharmacies, except for the SOP for extemporaneous preparation, since only 36.7% of the pharmacies carried out this function. SOP for monitoring and screening tests also showed a relatively low compliance rate because 22.9% of the respondents did not provide such a service. One of the respondents stated that there was no need to have SOP for the supply of self-monitoring devices as he could follow the manual provided by the manufacturer. Among the five SOPs required, supply of prescribed medicines and recording of group B and C poisons had the highest

Table 4: Percentage of compliance with personnel, references and SOP requirements of the BMG.

BMG Requirements	Number of respondents		
	Yes (%)	No (%)	Time frame to achieve*
Personnel			
Pharmacist(s) with professional dress code	259 (70.6)	108 (29.4)	Anytime
Pharmacist(s) with name tag	190 (51.5)	179 (48.5)	Anytime
Formal training for pharmacy assistant(s)	184 (50.4)	181 (49.6)	>2 but <5years
References			
Soft copies	175 (49.2)	181 (50.8)	>2 but <5years
Hard copies	332 (90.5)	35 (9.5)	>2 but <5years
SOPs			
Supply of prescribed medicine & record book for group B and C poisons	327 (88.4)	43 (11.6)	6–12 months
Response to minor health problems/ Sales of pharmacy medicine	263 (71.5)	105 (28.5)	6–12 months
Supply of self-monitoring devices	267 (72.5)	101 (27.5)	6–12 months
Monitoring and screening tests	245 (66.9)	121 (33.1)	6–12 months
Extemporaneous preparation	146 (41.8)	203 (58.2)	6–12 months

*Note: Time frame to achieve: An estimated time frame given by a majority of the respondents to comply with the guideline requirement.

compliance rates, as these are also legal requirements (Sales of Drugs Act 1952). For those pharmacies without SOPs, a suggested period of 6 to 12 months was required to prepare them. However, some of the respondents mentioned that they required proper training or courses to prepare the required SOPs. Professional bodies or authorities concerned with these issues could develop training packages to facilitate and guide the community pharmacists in preparing the required SOPs.

Association with the Types and Ownership of Community Pharmacies

Only those requirements where compliance was significantly associated with the types and ownership of the community pharmacies are shown in Table 5. Chain pharmacies were more likely to comply with the premise requirements such as display name(s) of pharmacist(s) on duty and

services provided as well as the availability of a screening area with proper signage when compared with independent pharmacies. This may be attributed to the fact that chain pharmacies are owned by large companies or groups of individuals, which have more resources and are generally more organised. Pharmacies owned by pharmacists were more likely to have private counselling areas and also to comply with the signboard requirements. This reflects the concerns of pharmacists regarding the professional image of their pharmacies.

Independent pharmacies were more likely to have tiles, glass slabs and measuring cylinders than chain pharmacies, probably because they were more likely to prepare extemporaneous preparations than chain pharmacies owned by corporate bodies. Chain pharmacies were more likely to have inventory control software, probably due to more funds available, and also due to the need to standardise and coordinate their business operation more efficiently. However, chain pharmacies owned by pharmacists were more likely to have pharmacy information software than those owned by corporate bodies. This indicates that if the owners were also pharmacists, they would probably understand the importance of professional software more than non-pharmacists.

Personnel requirements in the BMG were more likely to be enforced by chain pharmacies owned by corporate bodies. Chain pharmacies owned by corporate bodies usually have their own uniforms or dress code and name tags for their employees to maintain their corporate image. However, independent pharmacies or those owned by pharmacist(s) were more likely to have soft copies of references than those owned by corporate bodies. This again indicates that if the owners are pharmacists, they probably understand the importance of soft copies of reference more than non-pharmacists.

Reasons for non-compliance

The reasons community pharmacies could not comply with the BMG are shown in Table 6. Another reason stated by the respondents was that dispensing separation had not been implemented; hence, there was no urgent need to comply with the guidelines. Some respondents indicated that there was no official directive from the Ministry of Health to follow the guidelines. The main problem for not being able to comply with the BMG was financial constraint, and this was more applicable to independent than to chain pharmacies. It was also found that respondents

Table 5: Association between the types and ownership of community pharmacies and compliance with the BMG.

BMG	Types and ownership of community pharmacies				Total (n)	χ^2	p value
	Independent, owned by pharmacists, Yes/Total resp. (%)	Independent, owned by non-pharmacist, Yes/Total resp. (%)	Chain, owned by group of pharmacist, Yes/Total resp. (%)	Chain, owned by corporate body, Yes/Total resp. (%)			
Premise							
"Pharmacy" is larger than advertisement on signboard	192/218 (88.1%)	45/60 (75.0%)	18/20 (90.0%)	53/69 (76.8%)	367	9.46	0.024**
Display notices of service provided	122/219 (55.7%)	33/60 (55.0%)	15/20 (75.0%)	60/70 (85.7%)	369	23.13	<0.001*
Display name of pharmacist (s) on duty	116/219 (53.0%)	25/59 (42.4%)	11/20 (55.0%)	60/70 (85.7%)	368	30.23	<0.001*
Designated private counselling area	165/219 (75.3%)	41/60 (68.3%)	15/20 (75.0%)	37/69 (53.6%)	368	12.13	0.007*
Screening area with signage	82/218 (37.6%)	23/60 (38.3%)	13/20 (65.0%)	37/69 (53.6%)	367	10.20	0.017**
Equipment							
Tile/ glass slabs with spatula	133/219 (60.7%)	39/60 (65.0%)	11/20 (55.0%)	16/69 (23.2%)	368	33.30	<0.001*
Measuring cylinders	95/219 (43.4%)	15/59 (25.4%)	4/20 (20.0%)	9/69 (13.0%)	367	25.91	<0.001*
Computers for inventory/ stock control	149/219 (68.0%)	42/59 (71.2%)	18/20 (90.0%)	66/70 (94.3%)	368	22.23	<0.001*
Computers with pharmacy info. Software	85/218 (39.0%)	22/59 (37.3%)	10/20 (50.0%)	14/69 (20.3%)	366	10.00	0.019**

(continued in next page)

Table 5: *(continued)*

BMG	Types and ownership of community pharmacies				Total (n)	χ^2	p value
BMG	Types and ownership of community pharmacies				Total (n)	χ^2	p value
	Independent, owned by pharmacists, Yes/Total resp. (%)	Independent, owned by non-pharmacist, Yes/Total resp. (%)	Chain, owned by group of pharmacist, Yes/Total resp. (%)	Chain, owned by corporate body, Yes/Total resp. (%)			
Personnel and references							
Pharmacist(s) with prof. dress code	139/216 (64.4%)	41/60 (68.3%)	13/20 (65.0%)	65/70 (92.9%)	366	21.17	<0.001*
Pharmacist(s) with name tag	95/218 (43.6%)	21/60 (35.0%)	11/20 (55.0%)	62/70 (88.6%)	368	50.62	<0.001*
Soft copies of references	113/209 (54.1%)	31/58 (53.4%)	10/19 (52.6%)	20/69 (29.0%)	355	13.77	0.003*
Written SOPs							
Extemporaneous preparation	101/206 (49.0%)	21/57 (36.8%)	10/17 (58.8%)	14/68 (20.6%)	348	19.58	<0.001*

Note: Statistically significant at p < 0.01* and < 0.05**
resp. = respondents

Table 6: Types of pharmacies and the reasons for not complying with BMG.

Reasons	Number of respondents (%)		Total, n	χ^2	p value
	Independent pharmacies (n = 280)	Chain pharmacies (n = 89)			
Financial constraint	216 (77.1%)	50 (56.2%)	266	15.19	<0.001*
Time constraint	169 (60.4%)	48 (53.9%)	217	1.115	0.283
Customers' satisfaction	169 (60.4%)	34 (38.2%)	203	13.39	<0.001*
Guidelines not practical	124 (44.3%)	26 (29.2%)	150	6.36	0.012**
Disagreement (partner/employer)	56 (20.0%)	28 (31.5%)	84	4.97	0.026**
Space constraint	18 (6.4%)	3 (3.3%)+	21	17.21	0.306

Note: *Statistically significant at p < 0.01* and < 0.05**
+Cells with expected count less than 5 during chi-square test.

of independent pharmacies were significantly more reluctant to make any changes to their pharmacies as they felt that their customers were generally satisfied and comfortable with the current settings. They also felt that some of the guidelines were not practical. Another reason for not complying with the BMG was a lack of support from employers or partners, especially with independent pharmacies that were owned by non-pharmacists, as the owners were usually businessmen who were not interested in any changes that incurred extra cost. Respondents of chain pharmacies also faced difficulties in implementing the BMG as decisions were usually made by the management of the corporate bodies and not by the pharmacists.

Limitations of the Study

One of the main limitations in this study was the low response rate (29.2%), which is a well-established disadvantage of mail questionnaires. Therefore, the results obtained may not be representative of all community pharmacies in Malaysia. The characteristics of the respondents may be different from those of the non-respondents. The respondents who returned the questionnaires were probably the sub-group who were more concerned about the pharmacy profession and may be more likely to contribute positive results to the study.

Another limitation of the mail questionnaire is that the researcher cannot meet the respondent personally to provide a better understanding of the study. However, mail questionnaires were used in this study, as they can reach a wider area with minimum resources. In addition, the list of community pharmacies used may not have been complete; thus, some community pharmacies could have been missed in this study.

CONCLUSION

In general, a high proportion of the community pharmacists were not aware of the availability of the BMG, and this could have resulted in the overall low level of compliance with the guidelines. However, a majority of the respondents felt that the requirements in the guidelines could be achieved within five years. Therefore, the authorities concerned should step up efforts to publicise the BMG, review some of the criteria in the guidelines to make it more practical, and allow a grace period of about five years before enforcing the guidelines. In addition, the plans by the

MPS to include some criteria in the guidelines for the accreditation of community pharmacies in Malaysia would also help to increase compliance with the guidelines and further improve the quality and standards of community pharmacies in Malaysia.

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