



Community pharmacists' opinions of zoning policy in community pharmacy: A qualitative study in Malaysia

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ABSTRACT

This study aims to assess the opinion of community pharmacists regarding the zoning of community pharmacies in Malaysia. A semistructured qualitative study utilizing face-to-face interviews was conducted among 12 community pharmacists in Penang, Malaysia. Purposive sampling was employed, and data collection was stopped when the saturation point was reached. The interviews were audio-recorded and transcribed verbatim. The transcripts were independently coded, and the data was analyzed by ATLAS.ti version 8 using thematic analysis. The respondents generally showed a positive attitude toward zoning policy as they realized the high saturation of pharmacies in urban compared to rural areas. The pharmacists viewed that the high saturation of pharmacies caused price competition that affected the quality of pharmacy services. Besides, the respondents believed that many pharmacists refused to establish their stores in rural areas because of hard to survive in business. Some respondents viewed zoning policy as having the advantage of improving the quality of professional pharmacy services. Conversely, some respondents worried that the zoning policy might decrease competition among pharmacies and leads to market monopoly. Some respondents advocated incentives given by the government to support rural pharmacies and fix the distance between pharmacies based on population density. In conclusion, this study indicated a positive response among community pharmacists toward zoning policy.

INTRODUCTION

Zoning policy applies to relocating existing community pharmacies or allocating new pharmacies. Zoning in community pharmacies has been widely practiced in many countries to distribute pharmacies in urban and rural areas to increase pharmacy services accessibility [1–3]. For instance, in Australia, pharmacists must apply to the Secretary of the Department of Health to relocate an existing pharmacy or locate a newly opened pharmacy [4]. In Malaysia, there was a recommendation on zoning policy in the Community Pharmacy Benchmarking Guidelines 2011 and 2015 [5]. Nevertheless,

currently zoning in community pharmacies is not mandatory by legislation in Malaysia [6].

The absence of a zoning policy caused the unequal distribution of community pharmacies. In Malaysia, there are instances of new community pharmacies opening near an existing pharmacy, particularly in urban areas. Nevertheless, there is a lack of pharmacies in rural areas [7]. The concern about urban-rural inequalities in the accessibility of community pharmacies has been raised since the year 2012 by the former Health Minister of Malaysia [8]. In the year 2018, the community pharmacies to population ratio of urbanized areas such as Kuala Lumpur was 1:4,830. Meanwhile, in the state of Sabah, with more rural areas, the number of populations served per community pharmacy was 20,032 [9]. Some rural residents might need to travel far to reach the pharmacy [7]. Thus, ensuring the equity of access to pharmacy services in the community is important.

The lack of a mechanism to control the oversaturation of pharmacies in urban areas is a major challenge for

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community pharmacy practices in Malaysia. Community pharmacists are exposed to excessive market competition and face pressure in community pharmacy management [10]. Besides, the absence of a medicine price control policy in Malaysia further aggravates price competition. Excessive medicine price competition leads to shrinkage of profit margin [10]. The erosion of pharmacies' profit margins will likely reinforce the attention on commercial viability at the expense of professionalism [11]. The business aspect of community pharmacy had overwhelmed the professional practices [12], and less attention was paid to providing professional pharmacy services. The enactment of pharmacy location through zoning policy is one of the approaches to combat the issue. The community pharmacists' insights into pharmacy zoning are very useful in charting future zoning policies. However, very limited studies have been conducted in Malaysia on the issue of pharmacy zoning. Therefore, This study aims to assess community pharmacists' in-depth opinions regarding the zoning of community pharmacies in Malaysia.

METHODS

Participants

This was a semistructured qualitative study involving face-to-face interviews. A purposive sampling technique was used to recruit community pharmacists from the list of the Pharmaceutical Service Division, Ministry of Health Malaysia, for this exploratory study. The inclusion criteria were the full-time registered community pharmacists working in all five districts (Seberang Perai Utara, Seberang Perai Tengah, Seberang Perai Selatan, Barat Daya, and Timur Laut) in the state of Penang, Malaysia. The sample size of the participants was stopped at the occurrence of the saturation point at which no new data appeared from the interview. The determination of the sample size of this qualitative study was in accordance with the method by Bowen [13].

Instruments

Face-to-face interviews were conducted using a semistructured interview guide (Table 1). The guide was prepared after an extensive literature review and validated by three pharmacy academicians from the School of Pharmaceutical Sciences, Universiti Sains Malaysia, and three community pharmacists in Penang. Periodic interim analyses of the collected data and revisions of the semistructured interview guide were carried out to facilitate the subsequent interviews and boost the richness of the data.

Procedure

The interview of community pharmacists was carried out solely by the first author from April to June 2021. The prospective respondents were initially contacted through phone calls to obtain consent and an appointment was made prior to the interview. Each interview took an average of 10 to 30 minutes and was conducted face-to-face with the venue determined by the participants or synchronized by using Google Meet due to the COVID-19 pandemic. All interviews

Table 1. Semi-structured interview guide for community pharmacists.

No.	Key questions
1	Have you ever heard of the zoning of community pharmacies?
2	What do you understand about zoning?
3	What is your opinion towards the location and saturation of community pharmacies in your area?
4	Do you find it challenging to sustain the business?
5	Do you agree with the implementation of the zoning of community pharmacies in Malaysia?
6	In your opinion, how much distance should be between two community pharmacy premises (rural versus urban; shop lot versus shopping mall)?
7	What is the best time frame (within how many years) to implement the zoning policy?
8	How prepared are you and your team for the implementation of zoning?
9	Should the zoning policy be implemented on the new or existing community pharmacies?
10	Do you think the implementation of zoning can help to reduce competition among community pharmacies?
11	Do you think the implementation of zoning can improve professional pharmacy practices?
12	What do you think of other benefits of the implementation of zoning in pharmacies (other than numbers 9 and 10)?
13	Do you think that the implementation of zoning would bring benefits to consumers?
14	What are the potential disadvantages of zoning in pharmacies?
15	Do you think new pharmacies are willing to open in rural areas?
16	What are the challenges of opening new pharmacies in rural areas?
17	What actions can be done by the government/policymaker to encourage new pharmacies to open in rural areas?
18	How do you think zoning of pharmacies will help in the implementation of dispensing separation in the future?

were audio-recorded and transcribed verbatim by the first author. A random selection of transcripts was checked for accuracy by the second author and no significant discrepancy was detected. The transcripts were subsequently returned to respondents for comments and corrections.

Ethical consideration

This study was granted ethical approval from The Human Research Ethics Committee of Universiti Sains Malaysia (Ethics approval number: KKM/NIHSEC/P20-913). Written consent was also obtained from the participants prior to the interviews.

Data analysis

The transcribed data were coded and analyzed using ATLAS.ti version 8, for emergent themes using thematic analysis as recommended by Braun and Clarke [14]. The data identified were tested for constant comparison to find repeated patterns of meaning. The conclusion was made when no new themes were identified, and saturation of ideas was achieved.

RESULTS

A total of 12 interviews (pharmacist 1 to pharmacist 12) with community pharmacists aged 27 to 48 years old in Penang were successfully completed. Data collection was terminated after data saturation had been reached, as no new information was forthcoming from the interviews. The demographic characteristics of the respondents are shown in Table 2. A total of five themes were identified from the thematic content analysis of the interviews (Fig. 1).

Theme 1: Influence of saturation in community pharmacies on the professional community pharmacy services

The respondents perceived that the high saturation of pharmacies in an area would cause intense medicine price competition. Consumers tend to compare prices of medicines in nearby pharmacies and consider bargaining for lower prices as more important than better pharmacy services. Consequently, it might affect the quality of professional pharmacy services (Table 3).

Theme 2: Challenges of community pharmacies in rural areas

The respondents viewed that pharmacists in rural areas need more effort to educate residents with lower education levels. Some respondents perceived that rural residents have lower buying power, leading to fewer business transactions in rural pharmacies. Besides, the respondents expressed concern about delaying the medicine stock supply to rural pharmacies due to logistic problems (Table 3).

Challenges in recruiting staff in rural areas were another view of the respondents. Additionally, the respondents addressed that pharmacists might not favor working in rural areas as they are far away from their living places, families, and friends. Thus, pharmacists might need to pay extra traveling costs. Besides, rural areas have lesser availability of education for their children (Table 3).

Theme 3: Impact of zoning on community pharmacies

A few respondents agreed that the zoning policy would improve pharmacy accessibility, especially in rural areas. By distancing the pharmacies apart, competition will reduce, and the respondents foresee that this can minimize the price competition among pharmacies. Thus, pharmacists and consumers will switch their focus from price concerns to professional pharmacy services (Table 3).

Nevertheless, some respondents perceived that zoning policy would not improve the quality of pharmaceutical care. The respondents worried that when pharmacists are in the comfort zone of lowered competition, they will not improve their performance of professional services. Besides, some respondents anticipated that the prices of medicines and health supplements might increase after the competition is reduced after implementing the zoning policy. The concern about the pharmacy monopoly resulting from the zoning policy implementation was also raised by a respondent (Table 3).

Theme 4: Community pharmacist's readiness toward pharmacy zoning

A few respondents from established chain pharmacies stated that they were ready for the implementation of the zoning

Table 2. Demographics and characteristics of the responding community pharmacists.

Characteristic	Frequency (%)
Gender	
Male	7 (58.3%)
Female	5 (41.7%)
Age (years)	
21–30	4 (33.3%)
31–40	4 (33.3%)
41–50	4 (33.3%)
Ethnicity	
Malay	1 (8.3%)
Chinese	10 (83.4%)
Indian	1 (8.3%)
The specific location of the pharmacy	
Shopping complex	1 (8.3%)
Shop lot	11 (91.7%)
Employment position	
Self-owner and manager	4 (33.3%)
Part-owner and manager	3 (25.0%)
Employee or license holder	5 (41.7%)
Type of pharmacy	
Single outlet independent pharmacy	6 (50.0%)
Chain pharmacy	6 (50.0%)
Number of pharmacists in the pharmacy	
1	9 (75.0%)
2	3 (25.0%)
Number of community pharmacies within 300 meters of the pharmacy	
0	1 (8.3%)
1	5 (41.7%)
2	1 (8.3%)
3	3 (25.0%)
4	1 (8.3%)
5	1 (8.3%)
Opening days per week of pharmacy	
6 days	4 (33.3%)
7 days	8 (66.7%)
Operation hours per week of pharmacy	
51–60 hours	2 (16.7%)
61–70 hours	1 (8.3%)
71–80 hours	3 (25.0%)
81–90 hours	5 (41.7%)
91–100 hours	1 (8.3%)

policy. Meanwhile, a respondent believed that zoning could only happen after the implementation of dispensing separation policy for patients' convenience. Currently, in Malaysia, the separation of prescribing and dispensing is absent between private doctor clinics and community pharmacies (Table 3).

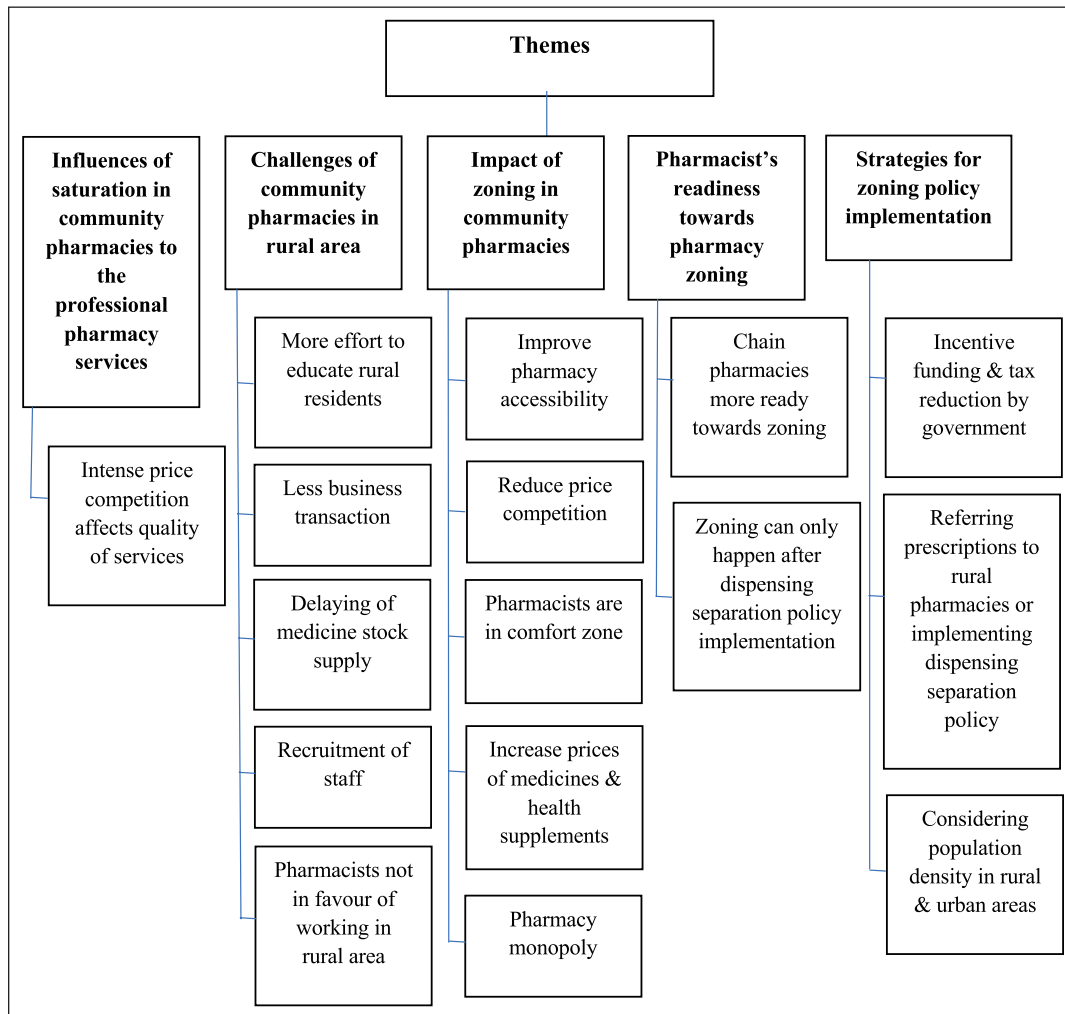


Figure 1. Thematic map.

Theme 5: Strategies for implementation of zoning policy

The respondents proposed a few strategies to encourage the establishment of new pharmacies in rural areas. A few respondents advocated some incentive funding and tax reduction by the government to reduce the financial burden of rural pharmacies. The respondents also suggested referring prescriptions to rural pharmacies or implementing dispensing separation policy to ensure the sustainability of rural pharmacies. Additionally, in the planning of zoning in pharmacies, the respondents suggested that the policymakers should consider population density in both rural and urban areas (Table 3).

DISCUSSION

This was among the first qualitative studies in Malaysia which assess community pharmacists' opinions regarding zoning policy in depth. The idea of the zoning policy is to prevent new community pharmacies from opening near an existing pharmacy, especially in urban areas [15,10]. The present study was conducted in Penang, an urbanized state in Malaysia with high saturation of pharmacies due to the absence of a pharmacy zoning policy [8]. The opinion of practicing

pharmacists in highly saturated areas is valuable for planning zoning policy. As the respondents face high market competition, they would provide ideas to address the challenges. The insight unearthed from this qualitative study can serve as the baseline data for a future nationwide quantitative study on issues around pharmacy zoning.

The study's respondents acknowledge that the high saturation of pharmacies has the disadvantage of aggressive competition, leading to a ruinous price war. A study by Ridley *et al.* [16] in the United States showed that price wars will happen when companies are closer to rivals. The impacts are often disastrous as market players utilize aggressive low prices, considering potential short-term losses to win the market share. The diminished profit margin will cause a shift of focus from professional pharmaceutical services to pricing. Due to aggressive competition, more than 80% of the community pharmacists from a study in Sabah state, Malaysia, stated that the business aspect of community pharmacy had overwhelmed the professional practice aspects [12]. Thus, immediate action of zoning by limiting the entry of new pharmacies into an area is needed to reduce the price competition.

The respondents acknowledged barriers to the implementation of zoning policy. They were concerned about the lack of pharmacists willing to establish their retail business in rural areas due to a few challenges. Firstly, low health awareness of rural residents caused more time and effort to

promote health awareness by the pharmacists. The finding was consistent with a previous survey in China whereby poor health awareness occurred among rural residents and they preferred simple or traditional ways of receiving health knowledge [17]. A previous study in Australia also revealed longer time spent by

Table 3. Community pharmacists' opinion of zoning policy in community pharmacy.

Theme	Theme description	Pharmacist's opinion
Theme 1: Influences of saturation in community pharmacies the professional community pharmacy services	Intense medicine price competition affects the quality of pharmacy services	<i>"If there are too many pharmacies in the same area, then definitely there is a price war between the pharmacies that will affect the pharmacies' services towards customers."</i> (Pharmacist 11)
		<i>"In my area, pharmacies are very saturated. They (customers) will compare the prices among pharmacies and argue with us because of the price without pay a respect to us."</i> (Pharmacist 8)
	More effort to educate rural residents	<i>"My area is saturated with 6-7 pharmacies. First problem is the price war. Customers tend to compare prices among all nearby pharmacies. Pricing is more important than services."</i> (Pharmacist 7)
		<i>"Lower educational level from the rural areas might pose a challenge for community pharmacists because they have to pay extra effort in educating the rural population."</i> (Pharmacist 3)
Theme 2: Challenges of community pharmacies in a rural area	Less business transaction	<i>"Rural area residents are less educated to take a supplement for health maintenance. May need more effort of pharmacist to educate them."</i> (Pharmacist 7)
	Delaying of medicine stock supply	<i>"The buying power of the residents in the rural area is not high. It will affect the (community pharmacy's) revenue and difficult to sustain a business."</i> (Pharmacist 5)
		Recruitment of staff
Theme 3: Impact of zoning on community pharmacies	Pharmacists not in favor of working in rural areas	<i>"Logistic wise, supply and distribution of medicines will not be as fast as in the non-rural area."</i> (Pharmacist 9)
		<i>"The drugs supply will be slower to reach rural pharmacies."</i> (Pharmacist 1)
	Improve pharmacy accessibility	<i>"Challenges will be the recruitment of staff in rural areas. Urban areas will have more opportunity in recruiting more staffs compared to the rural area."</i> (Pharmacist 3)
		Reduce price competition
		<i>"New pharmacists who serve the rural area need to pay extra traveling costs as it is far away from their living places."</i> (Pharmacist 3)
		<i>"Pharmacists have to commit many years of life in that rural areas, but there has lesser access to education for their children. They also need to be away from families and friends who are in urban areas."</i> (Pharmacist 4)
		<i>"Before zoning, a lot of pharmacies saturated in urban areas, but rural areas' residents have to travel far away to access pharmaceutical services."</i> (Pharmacist 3)
		<i>"The pharmaceutical services accessibility can be better towards the rural areas after zoning."</i> (Pharmacist 4)
		<i>"Zoning can reduce the price war. Consumers will choose the pharmacy based on the pharmaceutical services."</i> (Pharmacist 5)
		<i>"If the competition reduces, we can more focus on how to increase the quality of health of consumers, rather than trying to seduce them with a very low price."</i> (Pharmacist 3)
		<i>"We can focus on our professional services after zoning rather than pricing. We can have more time to upgrade our knowledge or provide more professional services rather than we argue with the customers regarding the price."</i> (Pharmacist 8)

Continued

Theme	Theme description	Pharmacist's opinion
Theme 4: Pharmacist's readiness towards pharmacy zoning	Pharmacists are in their comfort zone	<p>"Even with zoning, sometimes professionalism wouldn't be improved if the pharmacists don't wish to improve themselves." (Pharmacist 2)</p> <p>"A business that is already in a comfort zone after zoning, you might tend to forget to improve your professionalism and your pharmacy practice." (Pharmacist 10)</p> <p>"If only one pharmacy (in one zone), the pharmacy may not be operating in longer hours as reduced competition." (Pharmacist 1)</p>
	Increase prices of medicines & health supplements	<p>"The price of the drug will be higher without the competition after zoning." (Pharmacist 1)</p> <p>"Benefit for us, for sure we can set at a higher price and higher margin in our product after zoning, at least we can earn something." (Pharmacist 7)</p>
	Pharmacy monopoly	<p>"Implementation of zoning can reduce the competition and cause a monopoly of the pharmacies in the area." (Pharmacist 4)</p> <p>"For my company is expanding and conquering. Thus, we are ready for zoning." (Pharmacist 2)</p>
	Chain pharmacies more ready for zoning	<p>"My current company is well prepared. Actually, my boss doesn't mind operating a pharmacy in the sub-urban areas." (Pharmacist 5)</p> <p>"I think for those who already established like my company. Yes, we are prepared for the zoning." (Pharmacist 10)</p>
	Zoning can only happen after dispensing separation policy implementation	<p>"When we have dispensing right, it will encourage a patient to go to a pharmacy nearby a clinic to get their supply. Thus, zoning is necessary." (Pharmacist 9)</p> <p>"Tax reduction for pharmacies which open in rural areas." (Pharmacist 1)</p> <p>"Maybe more tax rebate for those willing to open pharmacies in rural areas." (Pharmacist 11)</p>
	Incentive funding & tax reduction by the government	<p>"Maybe can give some discount on the utility bill, license application, and signboard." (Pharmacist 7)</p> <p>"Maybe give rural pharmacies some incentive and subsidy so that they can get medicine at a cheaper price." (Pharmacist 6)</p>
	Referring prescriptions to rural pharmacies or implementing dispensing separation policy	<p>"If we have sufficient prescriptions from the doctors or hospitals to rural pharmacies, then they can sustain the business better. Not depending on normal dispensing or retail selling that is not sustainable." (Pharmacist 2)</p> <p>"Maybe working together with the nearby private or government clinic to refer to the rural pharmacies in line with dispensing right." (Pharmacist 4)</p> <p>"I think need both zoning and dispensing rights to be implemented at the same time to help the rural pharmacies." (Pharmacist 4)</p>
Theme 5: Strategies for zoning policy implementation	<p>Considering population density in rural & urban areas</p> <p>"For example, the government can set at least three pharmacies within the population of 1700 people in the zoning of pharmacies." (Pharmacist 10)</p> <p>"The range of distance between two premises depends on how much is the population in that area." (Pharmacist 4)</p> <p>"In rural areas where the community size is small, maybe can allocate one pharmacy in 10 km." (Pharmacist 6)</p> <p>"I think the population to be served should be the main point to be considered in zoning rather than only the distance between pharmacies." (Pharmacist 5)</p>	

pharmacists in consultation with rural residents [18]. Besides, a study in the United States showed that rural pharmacists did provide more pharmacy services, such as medication counseling, than those in urban areas [19]. Meanwhile, the Malaysian government does not impose consultation fees for community pharmacists' counseling and consultation services [20]. A lack of consultation fees could hinder Malaysian pharmacists from providing services in rural areas. Therefore, a proper reimbursement structure for pharmacy consultation

services is urgently needed to encourage Malaysian pharmacists to establish retail stores in rural areas.

A few respondents claimed lower daily business transaction is another challenge for rural pharmacies as it threatened their survival. Overall, rural areas are sparsely populated [21]. The residents have lower socio-economy status and purchasing power [22], which might lead to lesser daily business transactions in private pharmacies. Besides, it is a common practice for rural residents in Malaysia to

visit government health clinics and obtain free or subsidized medications supply [9]. Consequently, the diminished profit has threatened the sustainability of rural private community pharmacies. Within this context, the Malaysian government could consider employing rural community pharmacies to dispense minor ailment medicines and supply partially subsidized medicine to rural pharmacies. These strategies could encourage more rural residents to visit community pharmacies and subsequently compensate for the loss of profit among the pharmacies.

Poor rural road conditions and transportation were logistic shortcomings for the development of rural community pharmacies, as viewed by the respondents. Longer delivery times of stocks order to rural pharmacies were anticipated because many sub-urban areas and villages remain isolated from urban centers or from a highway of good quality [23]. This is consistent with a study from the United States which revealed that rural pharmacists complained that distance and limited transportation options are a barrier to accessibility compared to their urban counterparts [23]. Consequently, delays in stock arrival can seriously impact the business as it causes loss of sales, delayed cash flow, and loss of customers and affects pharmacists' credibility [24]. The government's effort to improve rural road infrastructure is needed to enable connectivity between rural and urban areas.

In this study, the respondents commented that pharmacists faced difficulty recruiting a pharmacy assistant or locum pharmacist in rural areas. A previous study in Sarawak, Malaysia, found similar findings that community pharmacists faced difficulties in recruiting competent auxiliary staff with sufficient basic education and skills, especially in rural areas [10]. Recruiting pharmacists to isolated communities can be a daunting and expensive task in rural private community pharmacies [25]. The respondents in the study emphasized that pharmacists from urban areas refused to work in rural areas as they needed to travel far and live away from families and friends. This finding was supported by a qualitative study on the challenges of rural pharmacies in Australia, which found that fear and unfamiliarity of rural areas were identified to be a barrier for pharmacists to relocate rurally for work [26]. Therefore, improving rural-urban road connectivity and providing extra allowances for rural pharmacists by the government can be strategies to encourage more community pharmacists to work in rural areas [26].

The respondents agreed on an advantage of the zoning policy, which is the improvement in the quality of pharmacy services by reducing medicines price competition. The claim is aligned with a study in Malaysia that stated price war had diluted professionalism in pharmacy practice [27]. The aggressive competition occurred in areas with high saturation of community pharmacies and caused intense market price competition. Consequently, consumers and community pharmacists who overemphasize price competition often disregard the quality of pharmacy services [12,28]. Pharmacists spend lots of their time adjusting the selling price of their pharmacy products to attract consumers. Without the establishment of dispensing fee policy in Malaysia, the profit margin from sales in community pharmacies is vital for ensuring business survival [12]. Thus,

the slim profit margin discouraged pharmacists from providing pharmacy consultations. As described by a qualitative study among community pharmacists in Malaysia, the respondents complained that lack of time and profitability were the barriers limiting pharmacists' involvement in health promotion activities [29]. Therefore, remuneration systems with dispensing fees in pharmacy services and zoning regulations are among the strategies to release the high competition between pharmacies, which were implemented in developed countries such as Australia and Canada [12,28].

Zoning in community pharmacies has disadvantages, as mentioned by respondents in this study. The respondents expressed concern that the reduction in competition after the zoning of pharmacies might lead to the monopoly of certain pharmacies and increased prices of medicines. The respondents' point of view was relatively consistent with a previous study which showed that monopoly power increased with reduced market competition and eventually market price level will rise [30]. The phenomenon is prominent with improperly allocating large chain pharmacies in a highly profitable urban area with fewer competitors [30]. The market price might increase when large chain pharmacies dominate an area. Therefore, the zoning policy should be cautiously implemented with proper selection criteria for the allocation of pharmacies in urban areas to avoid the above-mentioned challenges.

A pharmacist in this study expressed a specific view that the zoning policy must follow the implementation of the dispensing separation policy. The pharmacist viewed that zoning policy is required only when patients need to assess a community pharmacy nearby a clinic to fill their prescription medicines. Nevertheless, this finding contrasts with a previous study conducted among the Malaysian public to assess their views of dispensing separation policy [31]. The Malaysian public generally viewed that the zoning policy to allocate pharmacies nearby clinics should be prioritized before the dispensing separation policy is implemented. The public felt inconvenienced to visit two places for medical care, especially when the closest pharmacy was not within the vicinity of the visited clinic [31]. Hence, community pharmacy accessibility needs to be improved by zoning policy before dispensing separation policy implementation. Furthermore, in certain countries such as Australia and Iran, zoning policy has been successfully implemented and dispensing separation between private clinics and community pharmacies [15,32].

The respondents have suggested a few strategies to help establish zoning policies, particularly in rural areas. An example provided is reviewing incentives for rural pharmacies. This is consistent with the idea of the former Malaysian Health Minister, who was considering providing incentives to encourage pharmacists to set up pharmacies in rural areas [33]. Besides, there are different types of rural pharmacies' incentives implemented in other countries, which could be considered by the Malaysian government. In Columbia, for instance, the incentive is provided to rural pharmacies, which are the sole pharmacy store in the community and the next nearest pharmacy is at least 25 km away [34]. Besides, incentive strategy such as initial capital was invested by the Ministry of Health for the purchase of medicines in newly operated rural pharmacies in Kyrgyzstan [35].

The respondents agreed that zoning policy has the advantage of ensuring equality of health services accessibility in rural and urban areas. In Malaysia, uneven distribution of community pharmacies was found throughout the country due to the absence of a zoning policy [36]. Another study in the Kyrgyz Republic showed that community pharmacies are always saturated in more densely populated cities without zoning policies but are sparsely distributed in rural regions [35]. The respondents in this study proposed that the population to be served is an important factor to be considered when implementing zoning policy. This recommendation is consistent with the zoning legislation in the Europe region in allocating new pharmacies, whereby the population should benefit from universal and appropriate access to community pharmacies through proper community pharmacy planning [37]. For instance, the zoning legislation in Spain set the distance between pharmacies based on a population ratio of 1: 2,800 people. Meanwhile, in Belgium, zoning in pharmacies must fulfill the ratio of 1: 2,000 people in small municipalities and 1: 3,000 people in larger municipalities [38]

LIMITATIONS

The study was conducted among community pharmacists in urban areas. The lack of respondents from rural areas was a limitation of this study. Besides, consumers' opinions should be collected in future studies as they are the main stakeholder in the healthcare system.

CONCLUSION

The study indicated a positive response among community pharmacists toward zoning in pharmacies. The recommendation suggested by the pharmacists needs to be given in-depth consideration by both health policymakers and professional healthcare organizations for the betterment of shaping the zoning policy in Malaysian community pharmacies.

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AUTHOR CONTRIBUTIONS

All authors made substantial contributions to the conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; agreed to submit to the current journal; gave final approval of the version to be published; and agree to be accountable for all aspects of the work.

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CONFLICTS OF INTERESTS

The authors declare that they have no conflicts of interest.

ETHICAL APPROVALS

This study was granted ethical approval from The Human Research Ethics Committee of Universiti Sains Malaysia (Ethics approval number: KKM/NIHSEC/P20-913).

DATA AVAILABILITY

All data generated and analyzed are included in this research article.

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