

## ORIGINAL PAPER

## Primary Care

# The coping strategies of community pharmacists and pharmaceutical services provided during COVID-19 in Malaysia

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**Abstract**

**Background:** The coronavirus disease 2019 (COVID-19) pandemic has resulted in profound health challenges across the globe. Pharmacists' readiness to cope with the pandemic is critical in supporting and sustaining the healthcare workforce to meet the challenges.

**Objective:** This study aims to examine community pharmacists' views on their work environment, policies and preparedness for safe retail patronage to prevent the transmission of COVID-19 and assess the variables influencing coping strategies during the pandemic.

**Setting:** An online survey of pharmacists practising in community pharmacy setting in Malaysia.

**Method:** A questionnaire-based, cross-sectional study was conducted in Malaysia to evaluate coping strategies of community pharmacists and pharmaceutical services provided during COVID-19 pandemic. Between May 1 and July 31, 2020, the questionnaire was distributed to pharmacists working in community setting nationwide utilising a snowball sampling method.

**Main Outcome Measure:** Community pharmacists' perceptions on safety, resilience, organisational support, and pharmaceutical services offered during COVID-19 pandemic.

**Results:** A total of 217 pharmacists participated in the study. The vast majority of community pharmacists reported a positive outlook and were able to balance working with self-care during this period. Most reported to have access to personal protective equipment such as gloves and hand sanitisers. A large proportion of community pharmacies also installed physical barriers in doorways or in front of the counter, put markings on the ground to section areas to ensure physical distancing, and controlled the number of customers who could access the pharmacy during this period. Innovations reported to be implemented included teleconsultations and providing curbside or drive-through delivery and pickup services.

**Conclusion:** The findings suggest the frontline and essential roles of community pharmacists in delivering pandemic responses, creating the opportunity to determine areas where community pharmacy services can be incorporated to strengthen the public health system and improve patient health outcomes.

## 1 | INTRODUCTION

Pharmacists are trusted members of multidisciplinary healthcare teams and routinely encounter patients at community pharmacies.<sup>1</sup> The coronavirus disease 2019 (COVID-19) pandemic has led to transformation and optimisation of pharmaceutical services. As one of the most highly accessible healthcare professionals, community pharmacists are often the first point of contact in many health systems for the local communities who require health-related advice on COVID-19.<sup>2</sup> In tandem with physicians' practices rescheduling planned appointments for non-essential care, community pharmacies have now become the sole entry points to the primary healthcare services in many countries. Hence, it is essential that community pharmacists possess sufficient knowledge and information regarding COVID-19 to advise their patients, respond to enquiries, and be proactive in executing interventions to prevent the transmission of COVID-19 in communities.

In contrast to large healthcare facilities, community pharmacies do not have periodical, rigorous cleaning and disinfection to reduce environmental contamination. The tasks are inevitably undertaken by clinical staff (pharmacist), non-clinical staff (pharmacy assistants and dispensary technicians) or pharmacy management team. The availability of environmental sanitation and disinfection measures and practice of meticulous hand hygiene with readily available hand hygiene products would mitigate the risk of infection and provide some warranted reassurance of safety to both healthcare workers and patients. In addition, it is vital to evaluate the risk of occupational exposure to COVID-19 and provide staff with the necessary personal protective equipment such as masks, gloves, gowns or goggles since physical distancing is often difficult to implement due to the relatively small spaces. This necessitates considerable caution, for instance, maintenance of safe physical distances between customers or staff, wearing of face masks by both customers and staff members, and frequent use of alcohol-based hand sanitisers in the community pharmacy compound. Improvement of public health requires effective leadership from the pharmacists who are central in providing rapid response, good coordination, and evidence-based approach that are well communicated between team members.<sup>3</sup>

### 1.1 | Aim of the study

Although there have been several studies assessing the community pharmacies response to COVID-19, only few studies have investigated the response of private community pharmacies in Asia.<sup>4-6</sup> The objective of this study was to examine the community pharmacists' views on their work environment and policies, perceived risk and health, and preparedness for safe retail patronage environment to prevent the transmission of infection, in addition to services and innovations offered during this period. The correlations between demographic characteristics of community pharmacists and response to COVID-19 crisis were also evaluated.

### What's known

- Community pharmacists deliver important clinical services such as medication dispensing for chronic and acute conditions, medication management, and disease prevention, and recommendations for over-the-counter medications.
- Community pharmacists are well positioned to deliver healthcare services in view of their accessibility.
- COVID-19 pandemic has caused enormous challenges to the health care system worldwide, with a scarcity of research about the functions of community pharmacists in low- and middle-income countries.

### What's new

- Despite confronted with an unprecedented public health crisis, pharmacists are able to respond quickly to their clinical roles and provide preventive health care measures.
- Albeit in a scarce resource environment, community pharmacists are able to implement innovations in pharmaceutical services to reduce the risk of transmission and continue to deliver routine pharmacy services to the patients.
- The importance of community pharmacies and pharmacists in public health, specifically in the prevention and control of communicable diseases, has been evident since the onset of COVID-19.

## 2 | METHOD

### 2.1 | Study design and study period

This was a cross-sectional online survey conducted from May 1 until July 31, 2020 among registered community pharmacists practising in Malaysia. Pharmacists who were working in community pharmacies were recruited. The survey comprised 43 questions formulated based upon guidance from the International Pharmaceutical Federation,<sup>7</sup> Ministry of Health of Malaysia, Malaysian Pharmacists Society,<sup>8</sup> websites from medical societies as well as the authors' personal experience on community pharmacy practice. The questionnaire was subsequently reviewed by two pharmacy academics and was pilot tested among 10 community pharmacists for clarity and ease of administration. The questionnaire was composed of four sections, including (a) services offered to the communities during COVID-19 pandemic; (b) availability of safety measures at workplace; (c) staff resilience and (d) organisational support received during the pandemic (Supporting Information). A sum score for the final three domains was computed, with higher scores indicating better support, resilience and ability to stay healthy in the COVID-19 period.

## 2.2 | Survey administration

An invitation email together with the survey link to the online survey platform Qualtrics was sent to recruit practising pharmacist through the Malaysian Pharmacists Society and the authors' personal contacts. Invitations were also sent via informal pharmacist-only groups on the social media platforms (ie Facebook and Twitter), which were sharable to facilitate snowball sampling. In this approach, participants assisted in the recruitment of respondents through sharing of the survey among their acquaintances which increased the representativeness of participants. We also emailed the survey to pharmacy chains and stakeholders to recommend the study to their acquaintances to increase the sample's diversity. A total of three reminder emails were sent to potential participants every fortnight to increase participation rates. To prevent multiple responses from the same participants, we enabled the "Prevent Ballot Box Stuffing" option which only allowed for a single response from a respondent. Participants were provided with an explanatory statement describing the purpose of study, the risk and benefits, and that minimal personal information was collected. All participants provided informed consent electronically before they began the survey. Returned questionnaires were subsequently checked for completeness and had to have at least 50% of questions completed to be included in the final analysis.

## 2.3 | Statistical analysis

There were an estimated 2000 community pharmacies that were operational in Malaysia. Assuming that there were a total of 4000 community pharmacists working in community pharmacies, we estimated that we needed 187 responses in order to achieve a 95% confidence level and 7% confidence that these responses were representative of all pharmacists. Results were presented in frequencies, proportions, means and standard deviations. Since not all participants completed the full questionnaire, data were presented based upon total responses received for each question. No data manipulation was performed. To investigate the associations between sociodemographic profile of the participants and outcomes of level of agreement, we performed a bivariate analysis after excluding those with incomplete responses. Multivariate regression analysis was conducted to explore the relationships between sociodemographic characteristics and the levels of agreement of community pharmacist within the three categories, namely, safety at workplace, resilience and support. A *P* value of less than .05 was considered to indicate statistical significance. All analyses were performed with the use of SPSS Statistics version 26 for Windows (IBM Corp., Armonk, NY, USA).

## 3 | RESULTS

A total of 217 community pharmacists participated in the current survey. Participants were predominantly females (74.2%) and were

TABLE 1 Characteristics of study participants (N = 217)

	Sample size (n)	Proportion (%)
<i>Age (years)</i>		
20-29	23	10.6
30-39	123	56.7
40-49	39	18.0
50-59	27	12.4
60-69	5	2.3
<i>Gender</i>		
Male	56	25.8
Female	161	74.2
<i>Highest level of education</i>		
BSc (Pharmacy)/BPharm	179	82.5
Masters (MSc, MBA, MA, MPH, etc)	32	14.7
PharmD	6	2.8
<i>Occupational role</i>		
Pharmacist in charge	168	77.5
Owner/partner/executive officer	49	22.5
<i>Employment status</i>		
Part time	6	2.8
Full time	201	92.6
Locum	10	4.6
<i>Types of pharmacy</i>		
Independent community pharmacy (<4 stores)	62	28.6
Small chain community pharmacy (4-10 stores)	12	5.5
Large chain community pharmacy (>10 stores)	29	13.4
<i>Equipment needed to feel safer at workplace</i>		
Personal protective equipment	4	1.8
Masks	14	6.5
Gloves	3	1.4
Sanitiser	13	6.0

aged 30 to 39 years (56.7%). Nearly all of the respondents were full time pharmacists (92.6%) who possessed a bachelor's degree and were either the pharmacist manager or proprietor. Characteristics associated with the study participants were described in Table 1.

## 3.1 | Perceptions of community pharmacists on safety, resilience, and support

A large proportion of participants agreed or strongly agreed that they had access to personal protective equipment to keep themselves safe (92.2%) and felt confident that they could remain healthy while working (84.6%). Participants also felt that during this pandemic, they had been able to balance working with self-care (85.2%)

and kept a positive outlook on their capability to contribute to the society (91.4%). Most participants felt that they had a good and supportive working relationships with their employer (93.4%) and were confident in their leadership team's decisions during this period (85.6%). They also felt that they had sufficient access to the information needed for health and wellness benefits (75.0%) (Table 2).

### 3.2 | Innovations in pharmaceutical services during COVID-19 pandemic

To ensure the safety of their staff and customers, most community pharmacists modified the environment in their pharmacy to ensure safe passage of customers. These included the installation and creation of some forms of physical barriers at the doorways or in front of the counter (60.0%). Some community pharmacies also added markings using tape on the ground to section areas to enable physical distancing between their customers, especially during payment or waiting for pharmacy services (70.4%). A large proportion of community pharmacies also provided disposable gloves available freely for staff use (61.5%), whereas most had also restricted the number of customers that would be allowed to enter the pharmacy (63.0%). Three in every four community pharmacies also had freely available hand sanitisers for use by customers (74.1%) and employees (81.5%). Some innovative services which were offered by community pharmacies encompassed medication delivery (39.3%), remote consultations (31.1%) as well as curbside delivery (37.0%) and drive-through services of medications for their customers (33.3%). Interestingly,

another one in four community pharmacies also started a new collaborative programme with the neighbouring doctors to refer their patients with chronic disease (Table 3).

### 3.3 | Response to COVID-19 pandemic

We also examined how participants' baseline characteristics affected their outlook and perception towards responding to COVID-19 crisis. Findings suggested that the level of perceived organisational support was strongly correlated with gender ( $r = 0.578$ ,  $P < .01$ ), whereas perceived safety of work environment was significantly associated with occupational role of pharmacists ( $r = 0.144$ ,  $P < .05$ ) (Table 4). Multivariate logistic regression models after adjustment for sociodemographic factors revealed no significant difference with respect to gender, old age, postgraduate education, owner of pharmacy, and full time job in the context of perceived workplace safety, resilience, and organisational support during COVID-19 crisis (Table 5).

## 4 | DISCUSSION

To the best of our best knowledge, this study is the first cross-sectional study conducted in Malaysia to seek to understand the coping strategies and innovative responses of community pharmacists for COVID-19 pandemic. We found that most community pharmacists were generally well prepared to cope with the pandemic

**TABLE 2** Perceptions about safety, resilience and organisational support during coronavirus crisis (N = 203)

Statements	Responses, n (%)				
	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<i>Safety</i>					
I have the equipment (personal protective equipment [PPE], masks, gloves, sanitisers, etc) I need to keep myself safe	100 (49.3)	87 (42.9)	11 (5.4)	4 (2.0)	1 (0.5)
I feel confident I can keep myself healthy while doing my job	72 (35.6)	99 (49.0)	24 (11.9)	7 (3.5)	-
<i>Resilience</i>					
I have been able to balance working with taking care of myself	45 (22.8)	123 (62.4)	22 (11.2)	7 (3.6)	-
I have been able to maintain a positive outlook on my ability to contribute during this time	49 (24.9)	131 (66.5)	13 (6.6)	4 (2.0)	-
My team has been working well together to support each other during this time	70 (35.5)	114 (57.9)	-	1 (0.5)	2 (1.0)
<i>Organisational support</i>					
I have confidence in the leadership team's decisions for the organisation at this time	41 (25.6)	96 (60.0)	15 (9.4)	7 (4.4)	1 (0.6)
I have access to the information I need for relevant health and wellness benefits at this time (eg employee assistance resources, child care support, health care access, or benefits).	12 (20.0)	33 (55.0)	10 (16.7)	5 (8.3)	-

TABLE 3 Innovations in pharmaceutical services during COVID-19 pandemic (N = 135)

Statements	Responses, n (%)			
	I currently practise this	I plan to have this	This does not work in my setting	Not applicable in my setting
Physical barriers in doorways or in front of the pharmacy counter to prevent patients from getting close, for example, using chairs or tables	81 (60.0)	27 (20.0)	14 (10.4)	13 (9.6)
Cordon off areas using store shelving to redirect patients	54 (40.0)	26 (19.3)	26 (19.3)	29 (21.5)
Added tape on the ground to section areas of the pharmacy that patients can stand in to help ensure distance	95 (70.4)	24 (17.8)	7 (5.2)	9 (6.7)
Acrylic glass barriers/perspex in front of the counter for the collection of medicine	17 (12.6)	23 (17.0)	51 (37.8)	44 (32.6)
Use of contactless payment systems	57 (42.2)	27 (20.0)	10 (7.4)	41 (30.4)
Baskets to place money in baskets/bowls to further reduce the need for physical contact	21 (15.6)	27 (20.0)	42 (31.1)	45 (33.3)
Have an appointment system for delivery of medicine	53 (39.3)	31 (23.0)	20 (14.8)	31 (23.0)
Arranged for curb-side delivery of medicines/supplements, etc	50 (37.0)	28 (20.7)	19 (14.1)	38 (28.1)
Started drive-through services	45 (33.3)	25 (18.5)	26 (19.3)	39 (28.9)
Arranged for delivery services for regular customers	53 (39.3)	23 (17.0)	29 (21.5)	30 (22.2)
Offer remote consultation or consultation via phone, especially for chronic diseases	42 (31.1)	39 (28.9)	26 (19.3)	28 (20.7)
Implemented use of face shields in all staff	52 (38.5)	33 (24.4)	24 (17.8)	26 (19.3)
Arranged for a neighbouring pharmacy to refer patients to their pharmacy if the one you work in is unable to open	34 (25.2)	24 (17.9)	27 (20.0)	50 (37.0)
Updated and employed locum pharmacists in the event that the regular pharmacist is sick	42 (31.1)	20 (14.8)	17 (12.6)	56 (41.5)
Use my pharmacy social media site (eg Facebook or Twitter) to provide health-related advice and updates on COVID-19.	56 (41.5)	34 (25.2)	11 (8.1)	34 (25.2)
Started new collaborative programme with neighbouring doctors to refer patients with chronic diseases	34 (25.2)	34 (25.2)	23 (17.0)	44 (32.6)
Ensure workers who are at higher risk—such as those with comorbidities (eg chronic neurological or respiratory conditions or diabetes)—have little-to-no direct patient contact	46 (34.1)	32 (23.7)	20 (14.8)	37 (27.4)
Limited the quantity of medicines sold to a customer	17 (12.6)	16 (11.9)	41 (30.4)	61 (45.2)
Have disposable gloves available for staff use	83 (61.5)	29 (21.5)	14 (10.4)	9 (6.7)
Decrease unnecessary workers (ie decreasing worker density)	41 (30.4)	26 (19.3)	29 (21.5)	39 (28.9)
Signs at the door instructing clinic patients with fever, respiratory symptoms, or other symptoms of COVID-19 to return to their vehicle	61 (45.2)	24 (17.8)	20 (14.8)	30 (22.2)
Limit the number of patients in the pharmacy at any given time to prevent crowding at the pharmacy counter or checkout areas	85 (63.0)	27 (20.0)	11 (8.1)	12 (8.9)
Collaboration with other pharmacies to procure medications and supplies	44 (32.6)	32 (23.7)	14 (10.4)	45 (33.3)

(Continues)

TABLE 3 (Continued)

Statements	Responses, n (%)			
	I currently practise this	I plan to have this	This does not work in my setting	Not applicable in my setting
Alternate work days for pharmacy personnel to reduce risk of transmission	30 (22.2)	30 (22.2)	37 (27.4)	38 (28.1)
Have freely available hand sanitisers around counters for customer use	100 (74.1)	26 (19.3)	2 (1.5)	7 (5.2)
Have freely available hand sanitisers for staff use	110 (81.5)	22 (16.3)	-	3 (2.2)

	Safety of work environment	Resilience	Organisational support
Gender	0.054	0.108	0.578**
Age	-0.188**	-0.229**	-0.308**
Highest level of education	-0.098	-0.046	-0.093
Occupational role	0.144*	0.122	0.007
Employment status	0.133	0.014	0.062

\* $P < .05$ ; \*\* $P < .01$

and had a positive outlook towards keeping themselves and their customers safe, thereby further affirming the instrumental role of community pharmacists in implementing public health measures to control the spread of COVID-19. Although most community pharmacies had adapted their environment to reduce the risk of transmission, some community pharmacies went further in innovating new services, for instance, providing a drive-through or home delivery service to further minimise contacts among their customers. Interestingly, another key collaboration that was developed was referral services among other community pharmacies as well as with primary care doctors within the vicinity, which had been rarely practised in Malaysia due to competing commercial interests.

However, we found that less than one in every five community pharmacists in the survey reported to have installed acrylic glass barriers or perspex in front of the counter for the collection of medicine and utilised baskets to receive payments at cashier. This might be due to limited floor space and lack of infrastructure feasibility for applying the physical distancing measures. Notwithstanding, the employees were protected with the complimentary use of gloves and hand sanitisers. Furthermore, there was a growing opportunity for community pharmacists to exploit technologies to facilitate remote consultations, as presently practised by 31.1% of the respondents. Despite major investments have been insufficient in health technology industry of low-middle and middle-income countries, the COVID-19 pandemic has propelled the pursuit of convenient and inexpensive telehealth solutions to reduce population movements or physical and social interactions which help curb the spread of the disease, while maintaining the quality of clinical care. To realise a holistic telehealth-enabled future, novel engineering designs, products and innovations such as smart phones, wearable devices and instrumented (smart) homes can be accoutred with environmental and biological sensors that are interconnected using 5G networks to

monitor patient health and send messages to assigned clinicians and pharmacists when emergency situations are detected.<sup>9-11</sup>

We observed an overall decrease in level of perception on the dimensions of safety, resilience and support with increasing age of pharmacists. The majority of participants surveyed (74.7%) were mid-career pharmacists aged 30 to 49 years, whereas only 2.3% aged 60 years or older. It has been suggested that pharmacists' reactions to work-related conditions and experiences are dependent on age, with middle-age pharmacists expressing less satisfaction compared to both younger and older practitioners.<sup>12</sup> Our study resonated with a previous observation that pharmacists of 45 to 59 years old were more dissatisfied with their workload and attached more importance of their jobs to patients than did younger or older pharmacists.<sup>13</sup> We believe that this could be because senior members of the profession had prior experience to coordinate the emergency response to past series of influenza outbreaks that were similarly characterised by novel virus subtypes, specifically SARS outbreak of 2003, H1N1 Influenza of 2009, and New Avian Influenza Viruses H7N9 and H10N8 of 2013.<sup>14</sup> As such, they could acclimatise better to the policies and work environment for which they have served over numerous years.

Data from this study also found some evidence of gender disparity in organisational support. Albeit a tactful bit of literature found no evidence for gendered differences in ability, the variation in perceptions demonstrates a potential effect of local social norms and cultural influences in achieving supportive organisational culture which is governed by the shared values and beliefs that influence workplace and employee behaviours.<sup>15</sup> As such, effective strategies involving legislation, allyship, leadership and professional development of core competencies could transform organisational culture and climate towards gender equality in science, medicine and global health, hence optimising health, social and economic gains.<sup>16</sup> In

TABLE 4 Spearman's rank correlation coefficients for associations between sociodemographic factors and safety, resilience, and organisational support during COVID-19 pandemic (N = 203)

**TABLE 5** Odds ratio of associations between sociodemographic factors and perceptions on safety, resilience and organisational support during COVID-19 pandemic (N = 203)

Statements	Sociodemographic factors <sup>a</sup>				
	Gender	Age	Highest level of education	Occupational role	Employment status
<i>Safety</i>					
I have the equipment (personal protective equipment [PPE], masks, gloves, sanitisers, etc) I need to keep myself safe	1.222	1.149	0.837	1.242	1.073
I feel confident I can keep myself healthy while doing my job	0.764	0.816	1.148	1.079	1.059
<i>Resilience</i>					
I have been able to balance working with taking care of myself	0.926	5.529	0.996	0.996	0.502
I have been able to maintain a positive outlook on my ability to contribute during this time	0.874	4.718	1.484	0.945	0.905
My team has been working well together to support each other during this time	1.082	2.176	1.038	1.506	1.122
<i>Organisational support</i>					
I have confidence in the leadership team's decisions for the organisation at this time	1.022	1.903	1.793	1.804	1.741
I have access to the information I need for relevant health and wellness benefits at this time (eg, employee assistance resources, child care support, health care access, or benefits)	1.216	-	1.284	1.279	6.833

<sup>a</sup>Sociodemographic factors were categorised into dichotomous variables: gender (male/female), age (<60 years/≥60 years), highest level of education (undergraduate degree/postgraduate degree), occupational role (pharmacist in charge/owner), and employment status (full time/part time).

many countries, the limited opportunities for hiring, merit, promotion and access to productive resources of women in the fields of science and medicine warrant policy changes. This is indispensable for addressing and removing barriers to ensure full engagement and participation of women in the workforce, resulting in increased satisfaction and more diverse recruitment.<sup>15</sup>

The surprising correlation between perceived workplace safety and occupational role could be plausibly explained by external covariates, including the availability of higher operating budget, business revenue and staff education programmes. Being the owner, partner or executive officer of a community pharmacy generally has the ultimate responsibility and authority to decide on the company's capital allocation, decision making and operational management processes. Hence, the extent to which pharmaceutical care of patients and welfare of staff were distributed under the condition of a pandemic would stem from decisions and actions from the corporate boards.

Several limitations of this study should be noted. First, because the study design was cross-sectional, we could not elucidate the causality and temporal patterns between characteristics of community pharmacists and the way they responded to epidemic outbreaks. Second, the study faced challenges to timely repetition and longitudinal follow-up, limiting its utility for long-term surveillance to examine the effects of different responses to public health crises on clinical outcomes and general infection control measures. The

sample size was small in certain subgroups, particularly among male, those who were older as well as locum pharmacists, which could result in wide confidence intervals and point estimates. Similarly, due to the multiplicity of tests performed, there is a likelihood of occurrence of type 2 errors in the correlations between demographics and the safety, resilience, and organisational support received. As such, we urge caution in the interpretation of the results. In addition, the generalisability of the results might be limited because most of the participants were young women. However, this population is comparatively similar to the general community pharmacist population in Malaysia and many other countries.<sup>17-19</sup> Our study findings were also restricted to items contained in the survey instrument which was not designed to quantify the magnitude of changes in coping strategies and provision of pharmaceutical services over the pandemic period.

As we did not perform a probability-based sampling method, our results may not be representative of the full diversity of the Malaysian population with respect to race and ethnicity. The questionnaire scope did not measure responses by race or ethnicity of the pharmacists, socioeconomic status of the communities surrounding the pharmacies, geographical locations and presence of public health programmes in the local settings. Nevertheless, we believe that a transdisciplinary, cross-sectoral and coherent approach to infectious disease control should embrace community pharmacies with public health agencies to address the social determinants of health. As such, community pharmacies represent an important infrastructure



within the primary healthcare systems for combating the pandemic, contributing a part in patient education, disease surveillance, and dealing with medical supplies to be stockpiled or redirected in an emergency.<sup>20</sup> The services that can be delivered in community pharmacy settings include medication dispensing for chronic and acute conditions, chronic disease management, recommendations for over-the-counter medications, medication management and adherence support, self-care recommendations, vaccinations, specimen collection, and point-of-care screening or testing services for rapid diagnosis and education of patients about results, lifestyle recommendations, and referral to specialty care if necessary.<sup>21-23</sup>

There may be variations in responses regarding planning and preparedness of community pharmacies to disease outbreaks prior to stringent enforcement of lockdown measures by the authorities since March 18, 2020.<sup>24</sup> Consequently, the results of this study cannot explicitly refute other ecological drivers of change which may have influenced the findings of this study. It is also noteworthy that the perceptions of pharmacists may change over time in response to social and physical environmental factors. Strict enforcement would improve compliance to rules and standard operating procedures introduced by the government and thus minimising the risk of community transmission of COVID-19 in pharmacies and public areas.<sup>25</sup> As compared to face-to-face interviews, our study was conducted through online survey which might lead to biased results because it could have dismissed those with high workload, scarce time, and limited connectivity.

The repercussions of lockdown are now being observed in the Malaysian society, where furloughs have turned into redundancies and economic recessions have taken place. As such, we believe it is reasonable to anticipate not only sustained distress and considerable deterioration in supply chain and affordability of long-term personal protective equipment along with various businesses and profits downturn, but emergence of adverse health impacts of economic recessions due to the precarious job markets and weak social protection systems. The COVID-19 pandemic has engendered numerous daunting challenges for health service provision, especially with differing access to housing, food security as well as social connectivity, all of which are related to public health. Therefore, appropriate and proportionate clinical duties and response to mitigate or manage coronavirus crisis require multidisciplinary high-quality pharmaceutical care from the community pharmacies, alongside sufficiently resourced public health services supported by government policies and programmes.

## 5 | CONCLUSION

The findings depict the readiness and integral work performed by the community pharmacists in supporting patients and local communities, particularly the critical role they have played as frontline team members during the COVID-19 pandemic. For societies to control and prevent the transmission of emerging infections, it is essential that public health policies emphasised the need for technical,

regulatory and financial support from the government to improve protection of healthcare workforce and their communities against infectious disease, incorporating community pharmacists into nationally synchronised commitments to responding to any disease outbreak in collaboration with multidisciplinary teams of healthcare providers and specialists.

## CONFLICT OF INTEREST

The authors have no conflicts of interest to declare that are relevant to the content of this article.

## ETHICS APPROVAL

The study has been approved by the Monash Human Research Ethics Committee (Project ID: 25023).

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#### SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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