



Pharmacy Staffs' Perceptions and Opinion on the Drive-Through Pharmacy Service During Covid-19 Pandemic at One of the University Teaching Hospitals in Malaysia

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ABSTRACT

Amidst the COVID-19 pandemic that imposed movement control order, most patient had difficulties in collecting the medication. Therefore, drive-thru pharmacy was perceived as the safer and most convenient option to minimal the infection risks. This study aimed to assess the perception and opinion of the pharmacy staffs about the necessities of drive-thru pharmacy service during COVID-19 pandemic. A cross-sectional study was conducted in one of the university teaching hospitals in Malaysia, from February to May 2022. The respondents were among staffs in various pharmacy units. The staff perceptions and opinion of drive-thru pharmacy in preventing the spread of infectious diseases in the community was determined using descriptive analysis while the open-ended question was analyzed thematically. All (n=109) respondents positively acknowledge the importance of drive-thru pharmacy in reducing the risk of virus infection. The staff agreed that drive-thru service is helpful for patients who are busy with their daily routine (n=103; 94.5%), reduces patients' waiting time for picking up their medications and perceived that drive-thru Services are useful for senior citizen or caretaker (n=95; 87.2%). In conclusion, although 89 (82.0%) of the respondents highlighted the importance of drive-thru service especially during the spike of the COVID-19 pandemic, thirteen respondents (12.0%) raised hesitate to agree with the implementation of this service due to issue of manpower and satisfied with the existing pharmacy value added services (PVAS) at the hospital. Therefore, re-evaluation of the needs of drive-thru pharmacy during COVID-19 pandemic based on the patients and caregivers' perception should be conducted in future.

BACKGROUND

Pharmacy value-added services (PVAS) offers additional services to support patient-centred pharmaceutical care. The PVAS aims to maintain the consistency of medication supply, reduce waiting time significantly, and minimize travel expenses of patients [1]. In Malaysia public healthcare facilities, PVAS was an umbrella terms that include drive-thru pharmacy service, medicine lockers (better known as Medibox), Medicines by Post (also known as Ubat Melalui Pos or UMP),

and other appointment-based systems [2]. The implementation of PVAS provides freedom to the patients to choose their convenient time to pick up their medications or to receive their medicine. The implementation of PVAS is however limited to certain hospitals only, as some hospitals do not provide the service due to the additional cost of integrating value added and insufficient workforce [3].

Since 2003, the Pharmaceutical Services Division (PSD) of the Ministry of Health Malaysia (MOH) has been promoting PVAS

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nationwide with government-funded effort [1]. The PSD introduced the drive-through pharmacy services to address issues that patients experienced during their drug-collecting appointments such as insufficient parking at the health facility, overcrowding in the pharmacy waiting area, and long waiting time [1]. Patients on long-term drugs, with disability, elderly, and those are working are the target populations [4]. The goals of this transformation are to reduce patients' waiting time at outpatient pharmacies to collect their medication, to create a more friendly and efficient method for patients with special-needs or disabilities without having to exit their vehicle, and to lessen patient dissatisfaction due to limited parking spaces provided in the hospital compound [4].

The staff in pharmacy department elicited positive and negative response about drive-thru service. A previous study reported that pharmacists perceived that the drive-thru service is beneficial in serving sick patients, the elderly, disabled persons, or women with children in the car. In addition, the service is also found to be accommodating in reducing parking issues [5]. Moreover, one study reported the concerns among pharmacists pertaining to the drive thru pharmacy service as such service may downgrading their image as pharmacist, lead to dispensing and communication errors [5]. The rising workload among the pharmacists is putting a huge pressure on time and resources, and eventually pushing their energies to the limits [1].

In 2020 and 2021, the coronavirus (COVID-19) pandemic has impacted the medication distribution services to the patients. Globally, to ensure the rules of physical distancing and public safety, pharmacy drive-thru highlighted as the main methods of delivering medication from pharmacy to the patients [6]. In Malaysia, the demand for PVAS has increased to 27.3% at public healthcare facilities in Kuala Lumpur and Putrajaya, compared to the early 2019 which are before the COVID-19 outbreak [3]. While most of the hospitals in Malaysia have already implemented the drive-thru services, such service is not yet implemented in our study setting as the setting was implementing other choice of PVAS such as UMP and "panggil dan ambil" (PDA). Although the restriction of physical distancing had currently being lifted, the cases of COVID-19 are still being reported in Malaysia and therefore, drive-thru pharmacy is perceived as safe for the patients, caregivers, and staffs.

Therefore, this study is to assess the perceptions and opinion of pharmacy staffs about drive-thru services during the outbreak of Covid-19 pandemic. The findings of this study will reflect the necessities of the pharmacy department in our study setting to provide the drive-thru service to reduce the risk of COVID-19 infection.

METHOD

A cross-sectional study was conducted in one of university teaching hospital in Klang Valley, Malaysia from February to May 2022. A total of hundred and fifty staffs of the Pharmacy Department were invited to participate in this study.

We used "Raosoft Sample Calculator", an automated sample generating website that we used to help us in generating an appropriate sample size for our research or survey. The software considered the margin error (5%), confidence level (95%), and response distribution (50%), and the total population size (n=150). By entering all this information, the recommended sample size for our research was automatically generated and the minimum number of respondents that we need are n=109.

The inclusion criteria include permanent staff from pharmacy department, accessible to Google platform, and able to understand either Malay or English. Meanwhile, the exclusion criteria include the non-permanent staff or internship students. The final version of the questionnaire consisted of 16 items and with three sections, which were Section A: demographic information of the respondents; Section B: six questions on perception about drive-thru service in pharmacy; and Section C: five questions in the staff's opinion about drive-thru pharmacy service.

To ensure that the validity of the questionnaire, the initial draft of the questionnaire was distributed to two senior pharmacists, a pharmacist-in-charge of the drive-thru pharmacy, and four junior pharmacists. All statistical analyses were performed using Statistical Package for Social Science (SPSS) version 28.0 (SPSS Inc., Chicago, IL, USA). A descriptive analysis was used to determine the perception and opinion of the drive-thru pharmacy in preventing the spread of infectious diseases especially COVID-19 in the community. A thematic analysis using qualitative approach was used in analysing the open-ended questions.

This research was approved by the Malaysian Institutional Review Board (IRB)/Independent Ethics Committee (IEC) (NMRR-18-1638-42,105). The study was conducted following the ethical standards outlined in the Declaration of Helsinki 2013 by World Medical Association [7].

RESULT

Table I shows the demographic data of a total of 109 respondents from the Pharmacy Department at one of the university teaching hospitals in Malaysia participated in this study. Majority of the respondents were female (n = 71; 65.1%), working as pharmacist assistants (n = 57; 52.8%)

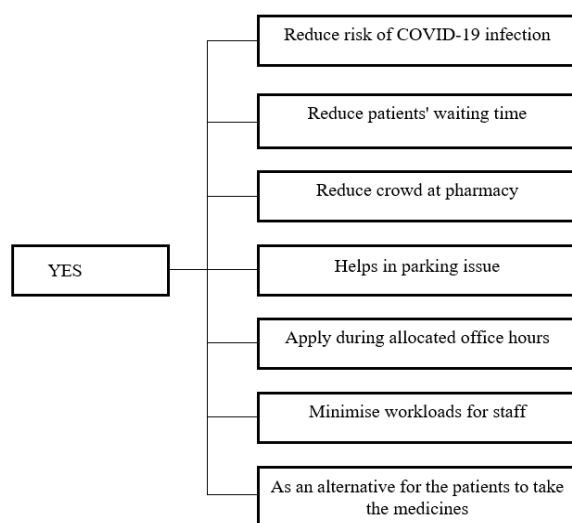
Table I. Demographic characteristics of the study sample (n = 109).

Parameters	n	%
Gender		
Male	38	34.9%
Female	71	65.1%
Job Position		
Pharmacist	18	16.7%
Pharmacist Assistant	57	52.8%
Healthcare Assistant	28	25.9%
Administrative Assistant	5	4.6%
Unit of Pharmacy		
Out-Patient Department	37	33.9%
In-Patient Department	16	14.7%
Satellite Pharmacy	6	5.57%
Manufacturing	3	2.8%
Sub-store	7	6.4%
Paediatrics, O&G, Nephrology Pharmacy	5	4.6%
Emergency Department	7	6.4%
Primer Clinic Pharmacy	4	3.7%
Non-Formulary Pharmacy	9	8.3%
Total Parenteral Nutrition	5	4.6%
Cytotoxic Drug Reconstitution	6	5.5%
Therapeutic Drug Monitoring	3	2.8%
Missing (Did Not Answer)	1	0.9%
Past Experience in Drive-Thru Pharmacy Service		
Yes	53	48.6%
No	56	51.4%

followed by the respondents working at the out-patient Department (OPD) (n = 37; 33.9%). The results found that almost half of the respondents (n = 56; 51.4%) had no experience working in any drive-thru pharmacy service, while the administration staffs (n = 53; 48.6%) have experience working in the drive-thru pharmacy service at their previous working institutions.

Respondents' Perceptions about Drive-thru Pharmacy Service

Table II shows that the majority (n = 103; 94.5%) of the respondents agreed that the drive-thru services were helpful for patients who are busy with their daily routine, reduces patients'

**Figure I. Positive Feedback on Drive-Thru Service in Pharmacy.**

waiting time (n = 102; 93.4%) for their medication pickup, and perceived that the drive-thru services were useful for senior citizen or caretakers (n = 95; 87.2%). In addition, the services aided in minimising contact with patients as it was the main concern among staffs during the pandemic (n = 100; 91.8%) and they perceived that the drive-thru services offered safer option during the pandemic (n = 98; 89.9%). Despite the advantages and positive response of the drive-thru services, there were respondents (n = 96; 88.1%) believed that dispensing errors could occur due to the service need to be provided faster as compared to the other types of PVAS. While other respondents (n = 93; 85.3%) stated that they were aware of the existence of the drive-thru services in other hospitals. Another group of respondents (n = 91; 83.5%) also suggested on the fact that the drive-thru services were beneficial as the services sped up the prescription process. Finally, administration staffs (n = 83; 76.1%) perceived that the workforce in the drive-thru services was minimal compared to the counters at the outpatient pharmacy unit.

Opinions to initiate/implement the drive-thru Pharmacy Service

About 68% of the respondents had positive response for the initiation of the drive-thru concept. However, only 15% of the respondents stated the reasons for their answers (e.g. reduces the risk of COVID-19 spread, reduces patients' waiting time, saves time and energy for both staff and patients, helps with parking issues, reduces overcrowding inside the hospital). Meanwhile, about 9% of the respondents stated 'No' as their answers, and another 3% also stated 'No' for an answer with reasons (e.g., needs more staff to manage the fast process, considers the service unnecessary due to the fact that there was already two VAS currently operated in the study site) (Figure I and Figure II). Overall, 67.9% gave a positive response to the implementation of the drive-thru but did not state any reason. While 13.8% expressed a positive response with reasons as stated in Figure I. Meanwhile 9.2% of the respondents stated that they felt the negative impact from the drive-thru implementation, but no reason was notified. Lastly 2.8% gave negative response with the reason as stated in Figure II.

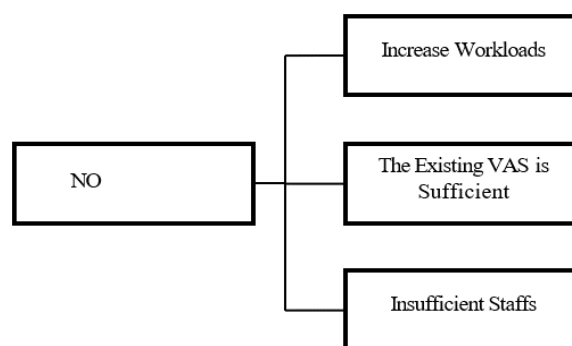
**Figure II. Negative Feedback on Drive-Thru Service in Pharmacy.**

Table II. Perceptions about Drive-Thru Service in Pharmacy (n = 109).

No.	Statement	Strongly Disagree 1	Disagree 2	Agree 3	Strongly agree 4
1.	Drive-Thru Service reduces patients' waiting time for picking up their medications.	0 (0%)	7 (6.4%)	58 (53.2%)	44 (40.4%)
2.	Drive-Thru Service is helpful for patients who are busy with their daily routine.	0 (0%)	6 (5.5%)	52 (47.7%)	51 (46.8%)
3.	Drive-Thru Services are useful for seniors or caretaker.	0 (0%)	14 (12.8%)	57 (52.3%)	38 (34.9%)
4.	Drive-Thru Service is one the way of minimizing contact with patients.	0 (0%)	11 (10.1%)	50 (45.9%)	48 (44.0%)
5.	Drive-Thru Service is helpful to reduce the spreading of Covid-19 among healthcare staff.	0 (0%)	11 (10.1%)	56 (51.4%)	42 (38.5%)
6.	Minimizing contact with patients is my main concern during the pandemic.	2 (1.8%)	7 (6.4%)	56 (51.4%)	44 (40.4%)

DISCUSSION

The perceptions and attitudes of pharmacists about the various PVAS have been reported in previous studies [8-10]. But to date, studies in the needs of drive-thru services during pandemic among the healthcare professionals are limited. Therefore, this study highlights the assessment of the perception and knowledge among pharmacy staff in one of the university teaching hospitals in Malaysia that did not offer the drive-thru services. The results of this study revealed that most of the pharmacy staff were aware of the drive-thru pharmacy services despite that the services are currently unavailable at our study setting. More studies on the needs of drive-thru pharmacy as one of the alternative mechanisms of dispensing medicines should be conducted as the spread of COVID-19 is still reported in Malaysia.

A previous study identified banners about the advantages of drive-thru pharmacy service and friends are also considered as factors that contributed to the good awareness and perception towards the implementation of such services [11]. Moreover, there are some factors that may contribute to the good awareness or perception among the pharmacy staff in our study setting regarding the drive-thru services as half of the respondents have had experience in the services. Information from the internet and friends contributed to the good awareness and knowledge about the drive-thru services.

Majority of the pharmacists believed that the drive-thru services serve benefits to the sick patients, the elderly, persons with disabilities, and women drivers with children, and also improve parking issues [6]. Despite the advantages of the drive-thru services during pandemic, minority of the respondents (16%) responded that the drive-thru services are not important in hospital setting because the services may increase their workloads and they thought that the existing PVAS such as UMP and "panggil dan ambil" (PDA) is sufficient. Furthermore, the pharmacists believed that the presence of the drive-thru service could result in staff miscommunication and errors in dispensing process. These

findings are supported by other studies whereby there were pharmacists who believed that drive-thru windows contributed to communication and dispensing problems [12] and may lessen patient-pharmacist interaction, which could have an impact on the counselling process [13].

During COVID-19 pandemic, most of the respondents agreed that drive-thru pharmacy able to minimise the spread of the virus. Similarly, the initiation of drive-thru pharmacy was reported as effective in ensuring the staff and public safety during pandemic [14-16]. In addition, the implementation of drive-thru pharmacy was aligned with the recommendation from the Centre for Disease Control that encouraged the patients with severe illness to use drive-thru pharmacy to pick up their medications [17].

Several limitations were identified in this study. This study was conducted at the university teaching hospital, and therefore, the perceptions might not be representative of other settings of hospitals. In addition, as the survey was conducted through online medium, there might be some misunderstanding of the questions as the respondents unable to clarify the questions with the researchers. To suggest, as this study is conducted among staffs, further studies involving more groups of patients and caregivers may need to be done in future to gain more insight about the need to establish drive-thru services at the hospital setting.

CONCLUSION

Overall, our study provided a preliminary understanding of how pharmacy employees perceived the need for a drive-thru pharmacy service during COVID-19 at a university teaching hospital that had not yet implemented it. Majority of the respondents perceived the benefits in the drive-thru services as the services reduce the spreading risk of COVID-19, reduce patients' waiting time, save time and energy for both staff and patients, helps with parking issues, and greatly reduce overcrowding in the hospital. The benefits of this service are well known throughout Malaysia, particularly during pandemics, and the respondents also emphasised the need for

a better introduction to this concept at the study site. However, before the implementation of the drive-thru pharmacy services in this study site, the issues related to cost and a lack of people should be taken into consideration.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

REFERENCES

- [1] Tan CLH, Gan VBY. Pharmacy value added services: Early beginnings, current implementation, and challenges from the Malaysian experience. *Indian J Pharm Educ Res.* 2016;50(3):335-43. <https://doi.org/10.5530/ijper.50.3.4>
- [2] Chung ES, Ahmad K, Sim SM, Chai S, Wong SF. Pharmacy value-added services: Experience in a Malaysian public hospital. *Malays J Pharm.* 2021 Jun 30;7(1):22-7. <https://doi.org/10.52494/vhsz7452>
- [3] Yussof I, Ibrahim NH, Che Ayub A, Ab Hashim N, Choon CJ, Chee CY, et al. Evaluation of pharmacy value-added services in public health facilities: Staff perception and cost analysis. *Explor Res Clin Soc Pharm.* 2022 Mar 1; 5:100120. <https://doi.org/10.1016/j.rcsop.2022.100120>
- [4] Din RM, Othman NA, Mohd Isa UK. Pharmacy Value Added Services in Malaysia. In *FIP/Hospital Pharmacy Section: Newsletter 45: International Pharmaceutical Federation*; 2015:8-10.
- [5] Abu Farha R, Abu Hammour K, Alefishat E, Alsaeed H, Alma'aiah S. Drive-thru pharmacy service: Assessments of awareness, perception and barriers among pharmacists in Jordan. *Saudi Pharm J.* 2017 Dec 1;25(8):1231-6. <https://doi.org/10.1016/j.jsps.2017.09.008>
- [6] Hussain R, Dawoud DM, Babar Z. Drive-thru pharmacy services: A way forward to combat COVID-19 pandemic. *Res Soc Adm Pharm.* 2021;17(1):1920-4. <https://doi.org/10.1016/j.sapharm.2020.07.015>
- [7] World Medical Association. 2013. World medical association declaration of Helsinki: ethical principles for medical research involving human subjects. *JAMA.* 2013. 310, 2191–2194. <https://doi.org/10.1001/jama.2013.281053>
- [8] Alsultan, MS, Khurshid, F, Mayet, AY, Al-jedai, AH, Hospital pharmacy practice in Saudi Arabia: dispensing and administration in the Riyadh region. *Saudi Pharm. J.* 2012. 20, 307–315 <https://doi.org/10.1016/j.jsps.2012.05.003>
- [9] Hassali, M., Subish, P., Shafie, A., Ibrahim, M., Perceptions and barriers toward provision of health promotion activities among community pharmacists in the State of Penang, Malaysia. *J. Clin. Diagn. Res.* 3, 2009. 1562–1568.
- [10] Olubunmi Afolabi, M, Oyedepo Oyeibisi, T. Pharmacists' perceptions of barriers to automation in selected hospital pharmacies in Nigeria. *J. Pharm. Pract.* 2007. 20, 64–71. <https://doi.org/10.1177/0897190007302894>
- [11] Liana AN, Hasnah I. Drive-thru pharmacy service: Assessment of perception among patients or caregivers in hospital Raja Perempuan Zainab II. *Int J Pharm Pharm Sci.* 2015;7(10):212-5.
- [12] Szeinbach S, Seoane-Vazquez E, Parekh A, Herderick M. Dispensing errors in community pharmacy: perceived influence of sociotechnical factors. *Int. J. Qual. Health Care.* 2007.19, 203–209. <https://doi.org/10.1093/intqhc/mzm018>
- [13] Chui MA, Halton K, Peng JM, 2009. Exploring patient-pharmacist interaction differences between the drive-through and walk-in windows. *J. Am. Pharm. Assoc.* 2009. 49, 427–431. <https://doi.org/10.1331/japha.2009.07165>
- [14] Thumbay University Hospital launches drive-thru pharmacy service. 2020. Available from: <https://www.khaleejtimes.com/coronavirus-pandemic/thumbay-university-hospital-launches-drive-thru-pharmacy-service>
- [15] Sidra Medicine introduces drive-through pharmacy. 2020. Available from: <https://www.thepeninsulaqatar.com/article/25/03/2020/Sidra-Medicine-introduces-drive-through-pharmacy>
- [16] Australian Journal of Pharmacy (AJP) Is drive thru and delivery the future for pharmacy. 2020. Available from: <https://ajp.com.au/about-the-ajp/>
- [17] Guidance for pharmacies. 2020. Available from: https://www.cdc.gov/coronavirus/2019-ncov/hcp/pharmacies.html?fbclid=IwAR3iN830jGJI9nL4ZC_3-6oYqtFBb_uJGkaQK1bzupq-sMnFluKJnIkTACI