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Original Article

DRIVE-THRU PHARMACY SERVICE: ASSESSMENT OF PERCEPTION AMONG PATIENTS OR CAREGIVERS IN HOSPITAL RAJA PEREMPUAN ZAINAB II

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ABSTRACT

Objective: The aim of this study was to evaluate the perception of patients or caregivers on drive-thru pharmacy in Raja Perempuan Zainab II Hospital (HRPZ II), Kelantan.

Methods: A cross-sectional study was conducted from July to September 2014 on 387 patients or caregivers recruited from outpatient pharmacy, HRPZ II using a constructed survey form. The questionnaire was validated through a pilot study which yielded a Cronbach's alpha score of 0.897. It comprised common socio-demographic characteristics as well as 3 domains which described subject's experience in outpatient pharmacy, subject's perception of drive-thru pharmacy and subject's willingness to participate in the service.

Results: More than half of respondents (n=231, 59.7 %) were aware of the existence of drive-thru pharmacy service. Almost all patients and caregivers (n=349, 90.2 %) perceived the service as useful to the public. Only a handful of them were reluctant to sign up, mainly due to the perception that it would cause lack of interaction between patients and pharmacists (n=16, 4.1%). Nearly three-quarters of participants (n=288; 74.4%) informed that they had never been asked to register as drive-thru pharmacy clients. They claimed that they were willing to use the service should it was offered to them (n=301; 77.8 %).

Conclusion: This survey managed to garner positive feedbacks on drive-thru pharmacy. Most of the subjects perceived it as beneficial and were willing to use the service.

Keywords: Drive-thru pharmacy, Key performance indicator, Value-added pharmacy service, Perception, Awareness.

INTRODUCTION

Pharmacy services continue to improve simultaneously with the expanding role of the pharmacist. Outpatient prescription drug services have come a long way since conventional methods of drug dispensing [1]. Such example is drive-thru or drive-through pharmacy which is inaugurated in view of increasing demand for convenience in modern society [2]. Otherwise known as drive-up prescription refill service, it is widely established in community pharmacies outside of Malaysia [3]. Its history dated back to the 1990s with Walgreens Pharmacy and now is scattered across the country. This system enables customers to refill their prescriptions by driving up to dispensing windows resembling those of typical fast food drive-through outlets [2].

It is safe to consider that drive-thru pharmacy as a relatively novel service in Malaysia since it was started as a pilot project at Pulau Pinang Hospital in 2008 [4]. The experiment was proven to be a success and thus, drive-thru pharmacy was made as one of the key performance indicators (KPIs) for Minister of Health in 2010 [5]. The move was to allow patients to collect repeated medications at their convenience and ease the congestion in the pharmacy [6]. In November 2011, Raja Perempuan Zainab II Hospital (HRPZ II) also took up the challenge to introduce drive-thru pharmacy service for local citizens in Kota Bharu, Kelantan. The initiative was commenced to reduce waiting time in the pharmacy and solve the limited parking bays issue in the hospital [7].

With each emergence of new services, it has become essential to determine the perception of potential consumers as it can be a key determinant in triggering patients to use a pharmacy's service [8]. Patient perception has been evaluated by means of interviews or surveys in various pharmacy fields, ranging from clinical to community pharmacy areas [9-12]. It is important for services to be constantly reviewed for further amelioration to fulfill patients' needs and expectations [9].

The primary objective of this study is to evaluate the perception of patients or caregivers on drive-thru pharmacy as one of the value-added pharmacy services in HRPZ II.

MATERIALS AND METHODS

Design and study population

This cross-sectional, descriptive study was carried out at outpatient pharmacy, HRPZ II for duration of 3 mo. which was from July to September 2014. A total of 387 patients or caregivers within the inclusion criteria were determined at the outpatient pharmacy counter when they handed their prescriptions for refills. The pharmacist on duty at the counter would ask the selected respondents to fill in a self-administered survey form. Once they had finished, they would pass the form to the pharmacy staff dispensing their medications. Study population was chosen using systematic sampling of every fifth patient based on inclusion criteria of age more than 18 y old, on long term treatment with prescriptions for at least 2 mo' supply as well as able to speak and write in Malay language. Drive-thru pharmacy clients, illiterate individuals or patients suffering from psychiatric disorders were excluded.

This research was submitted to National Medical Research Registry (NMRR) for review. It was approved by the Malaysian IRB/IEC Medical Research Ethics Committee (MREC) on 30 June 2014 and granted with NMRR id number of NMRR-13-1511-18973.

Instrumentation

Since there was no validated questionnaire on the topic, a set of survey form with 19 questions in Malay language was constructed. It was handed out to 2 pharmacists in charge of drive-thru pharmacy services in HRPZ II to ascertain the suitability of the question formats for each domain.

The reconciled version of the questionnaire comprised of common socio-demographic characteristics and 3 domains. The socio-demographic factors were age, gender, race, education level, occupation and monthly income. The domains covered were subject's experience in outpatient pharmacy (5 items), subject's perception drive-thru pharmacy (5 items) and subject's willingness to participate in the service (2 items).

To determine its validity and reliability, the questionnaire was administered to 30 patients or caregivers in a pilot test. An assessment checklist was further developed to evaluate its applicability and practicality. It consisted of 4 items which asked about patient understanding, the duration to complete the questionnaire, comprehensiveness and spontaneous responding. Reliability test using Cronbach co-efficient alpha formula on the data managed to yield a score of 0.897. The questionnaire was finalized after amendment and proof reading by 2 pharmacists.

Statistical analysis

Sample size estimation was done using the sample size calculator by Raosoft Inc. Utilizing the margin error of 5%, confidence level of 95 %, population size of 12,500 (total of patients with refilled prescriptions for 3 mo) and response distribution of 50%; the minimum computed sample size was 373 subjects. Data was analyzed using IBM Statistical Package for the Social Sciences (SPSS) version 20.0. All socio-demographic and categorical data were presented as frequencies and percentages. Continuous variable (age) was expressed as mean and standard deviation.

RESULTS

Socio-demographic characteristics

A total of 387 subjects were recruited in this study. Their age ranged from 18 to 80 y old with mean (SD) of 37.4 (13.1). The ratio of patient to caregiver among respondents was roughly equal (1.8:2). Study population was made up of more female (63.6%, n=246), while ethnic distribution showed a predominance of Malays (n=343, 88.6%). The majority of them received secondary level education (n=242, 62.5%)(table 1).

Table 1: Socio-demographic characteristics among study population presented in percentage

Characteristics	All n (%)
Status	
Patient	178 (46%)
Caregiver	209 (54%)
Gender	
Male	141 (36.4%)
Female	246 (63.6%)
Ethnicity	
Malay	343 (88.6%)
Others	44 (11.4%)
Education level	
Primary education	15 (3.9%)
Secondary education	242 (62.5%)
Tertiary education	130 (33.6%)

Table 2: Subject's experience in outpatient pharmacy presented in percentage

Items	All n (%)
Satisfactory level	
Very satisfied	55 (14.2%)
Satisfied	237 (61.2%)
Neutral	73 (18.9%)
Unsatisfied	21 (5.4%)
Very unsatisfied	1 (0.3%)
Waiting time	
Less than 15 min	83 (21.4%)
Between 15–30 min	165 (42.6%)
Between 30–60 min	118 (30.5%)
More than 60 min	21 (5.4%)
Difficulties faced by subject	
Time restriction	67 (17.3%)
Lack of parking lots	100 (25.8%)
Long distance to hospital	35 (9.0%)
Traffic problems	39 (10.1%)
Travelling cost	15 (3.9%)
Long waiting time	43 (11.1%)

Subject's experience in outpatient pharmacy

Subjects were generally satisfied (n=292, 75.4%) with the service provided by outpatient pharmacy, HRPZ II. Almost half of them (n=165, 42.6%) reported that their waiting time for prescription refills was between 15 to 30 min. However, it was noted that they had some difficulties coming to the hospital (n=245, 63.3%) with the primary problem was the lack of parking spaces (n=100, 25.8%). This would have contributed to their failure to comply to pharmacy appointment dates (n=128, 33.1%) (table 2).

Subject's perception of drive-thru pharmacy service

More than half of the patients or caregivers (n=231, 59.7%) reported that they knew about the service and were mainly made aware by pharmacy staffs (n=95, 24.5%). Up to 9 out of 10 participants (n=349, 90.2%) perceived drive-thru pharmacy as useful to the public as it could save time (n=296; 76.5%). Only a handful of them were reluctant to sign up, mainly due to the perception that it would cause lack of interaction between patients and pharmacists (n=16, 4.1%) (table 3).

Table 3: Subject's perception of drive-thru pharmacy service presented in percentage

Items	All n (%)
Ways they come to know about the service	
Promoted by pharmacy staffs	95 (24.5%)
Promoted by doctors	17 (4.4%)
Banner	79 (20.4%)
Radio	0 (0%)
Television	8 (2.1%)
Internet	11 (2.8%)
Friends	62 (16.0%)
Perceived advantages of the service	
Save time to fill prescription	296 (76.5%)
Save travelling cost to hospital	73 (18.9%)
Reduce traffic in hospital area	147 (38.0%)
Medicine can be collected on time	88 (22.7%)
Perceived disadvantages of the service	
Reduced interaction between pharmacy staff and patients	16 (4.1%)
Impractical drive-thru pharmacy location	14 (3.6%)
More comfortable at outpatient pharmacy	12 (3.1%)
Inappropriate operating hours	10 (2.6%)
Complicated registration for drive-thru service	5 (1.3%)

Subject's willingness to register with drive-thru pharmacy service

Nearly three-quarters of participants (n=288; 74.4%) informed that they had never been asked to register as drive-thru pharmacy clients. They claimed that they were willing to use the service should it was offered to them (n=301; 77.8%).

DISCUSSION

Very few researches have investigated on the topic of drive-thru pharmacy. Past published studies were mostly revolved around patient satisfaction as well as pros and cons of providing such service. Evidence revealed that drive-thru pharmacy had both positive and negative circumstances on the community.

It was observed that a high number of our subjects were satisfied with outpatient pharmacy services which were contrary to previous local reports. Mohammed Azmi H. and colleagues in 2012 found that only 40.7% (n=177) patients in Kulim, Kedah were pleased with pharmacy services [13]. The degree of satisfaction was far less in the work by Shahab R. and Harihodin S. with 75% (n=109) respondents were unsatisfied. However, this might be due to the fact that they chose post-graduate students as their subjects, whereas our respondents were mainly of secondary level education [14].

The average number of our study population reported that their waiting time for prescription refills was between 15 to 30 min;

which corresponded to earlier findings in other countries [15, 16]. Inadequate parking area is a common problem for public and is one of the daily struggles faced by patients when coming to the hospital especially during peak hours [17, 18]. This explained the rationale for patients' response which eventually might lead to non-conforming to pharmacy appointments [16].

The awareness on existence of drive-thru pharmacy could be considered as fair since patients were more likely to be alert on conventional services only [17]. Our respondents perceived drive-thru pharmacy as an expedited service in terms of prescription refilling. We could relate this with the paper by Othman C. N. *et al.* on drive-thru pharmacy at Hospital Pulau Pinang in 2010. The study reported that subjects were satisfied with the service as it managed to reduce waiting time (63.2%, n=21) with comfortable service hours (61.4%, n=35) and convenient counter location (36.8%, n=21) [4]. In 2013, Lin Y. F. et. al also reported the same observation when they studied the first drive-thru pharmacy service in Taiwan. It managed to provide patients with a convenient and quicker alternative ecompared to ordinary pharmacy service.

The results exhibited that there was an increase in the overall refilling prescription rate within the 6-months implementation period [19]. A study at a large naval medical facility also found out that it was capable of reducing customer congestion and parking demand, along with improving customer service at the outpatient pharmacy department [3].

However, a few of the subjects felt that the service had its own disadvantages. They claimed that it might reduce the interaction between patients and pharmacy staffs. This result was supported by previous researches which suggested that drive-up service could lessen interaction between the customer and pharmacists for counselling [3, 20].

Another potential issue was its compatibility with patient care by pharmacists. It was said that pharmacist-linked services were provided better in-store and drive-up pharmacy might detract from patient care [21]. A controversial discovery by Szeinbach S. and colleagues unveiled that pharmacists believed it caused extra distractions which contributed to processing delays, reduced efficiency and even dispensing errors. This was because the window was often located in an area convenient for cars but not necessarily appropriate for staffs [22].

Perceived service quality can influence consumers' behavioral intention which in time will tend to recommend the service to others [23]. There was no question that respondents with a positive perception on drive-thru pharmacy were more accepting, regardless of their background. It was also observed that most of them were willing to use the service should it was offered to them. A good impression can be generated through explanation and gentle persuasion especially during patients' visit to the pharmacy. Words have to be spread at a greater scale so that the public may understand the importance and the benefits of this service.

Several limitations were detected in the study. Recruitment of participants using facility-based sample was prone to selection bias which means that the data could not be safely generalized to local population of Kota Bharu, Kelantan.

Also, the study was composed of patients and caregivers instead of patients only as both groups were clients of outpatient pharmacy. Even though the instrument managed to show proof of scientific reliability and validity; it was not maximized. Therefore, additional studies are warranted before it can be established as an acceptable tool for measuring patient perception. These limitations may affect the significance and validity of the study, but nevertheless the results are worthy of further investigation.

CONCLUSION

This survey managed to garner positive feedbacks on drive-thru pharmacy. Most of the subjects perceived it as beneficial and were willing to use the service. Fear of poor patient care was the main factor which refrained patients or caregivers from signing up. However, overall findings from this study provide preliminary inputs on the public sentiment towards drive-thru pharmacy service.

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CONFLICTS OF INTERESTS

All authors have none to declare.

REFERENCES

1. Kelly DV, Young S, Phillips L, Clark D. Patient attitudes regarding the role of the pharmacist and interest in expanded pharmacist services. Can Pharm J 2014;147:239-47.
2. Myers A. Drive-through businesses. American Business History and Civil Liberties; 2011.
3. Holt MR. Drive-up prescription refill service at a large navy medical facility. Am J Hosp Pharm 1992;49:1688-91.
4. Che Noriah O, Mohamad Izani O, Roza D, Suraya S, Nordini H, Roz Azinur CN. Customer's satisfaction on the implementation of drive-through pharmacy in Penang General Hospital, Penang, Malaysia–pilot study. Eur J Public Health 2010;20:245-87.
5. Bahagian Perkhidmatan Farmasi, KKM. "Polisi Operasi Farmasi Ambulatori (hospital and klinikkesihatan). Edisi; 2011. p. 1.
6. Health Ministry to test drive-through project at Penang Hospital soon. The Star. Available from:URL: http://www.thestar.com.my. [Last accessed on 27 Apr 2008]
7. Sinar Harian. Drive Thru' di HRPZ II atasi kesesakan kawasan hospital. Available from: URL: http://www.sinarharian.com.my. [Last accessed on 30 Jan 2012]
8. McDonough R. Using relationship marketing to expand pharmacy services. The Dynamics of Pharmaceutical Care: Enriching Patients' Health; 2007.
9. Ankrah DNA, Ofei-Palme CN, Nordor N, Nelson F, Ocansey D, Bruce E. Patients' perception and expectations of services provided by pharmacists in Ghanaian hospitals. Afr J Pharm Pharmacol 2014;8:1164-72.
10. Wirth F, Tabone F, Azzopardi LM, Gauci M, Zarb-Adami M, Serracino-Inglott A. Consumer perception of the community pharmacist and community pharmacy services in Malta. J Pharm Services Res 2011;1:189-94.
11. Al Akshar S, Metwaly Z, Shamssain M. Patients' perceptions of community pharmacy practice in UAE: an overview. J Pharm 2014;4:8-14.
12. Lacaria K, Balen RM, Frighetto L, Lau TTY, Naumann TL, Jewesson PJ. Perceptions of the professional pharmacy services in a major Canadian hospital: a comparison of stakeholder group. J Inform Pharmacother 2002;11:408.
13. Mohammed Azmi H, Alrasheedy AA, Basyirah Afifah AA, Saleh KA, Fahad S, Noman UH, *et al.* Assessment of general public satisfaction with public healthcare services in kedah, Malaysia. Academy Management J 2014;7:35-44.
14. Shahab R, Harihodin S. Patient satisfaction in a university health center: a Malaysian study. J Health Inform Dev Countries 2014;8:104-14.
15. Afolabi MO, Erhun WO. Patients' response to waiting time in an out-patient pharmacy in Nigeria. Trop J Pharm Res 2003;2:207-14.
16. Slowiak JM, Huitema BE, Dickinson AM. Reducing wait time in a hospital pharmacy to promote customer service. Q Manage Health Care 2008;17:112–27.
17. Haron SN, Hamid MY. Exploration of usability issues in Malaysia public hospital spatial design: pilot study. Int J Appl 2011;1:127-34.
18. Haron SN, Hamid MY. Exploration of usability issues in Malaysia public hospital spatial design: pilot study. Int J Appl 2011;1:127-34.
19. Lin YF, Lin YM, Sheng LH, Chien HY, Chang TJ, Zheng CM, *et al.* First drive-through pharmacy services in taiwan. J Chin Med Assoc 2013;76:37-41.

20. Chui MA, Halton K, Peng JM. Exploring patient-pharmacist interaction differences between the drive-through and walk-in windows. J Am Pharm Assoc 2009;49:427-31.
21. Lee TA, Larson LN. Evaluating the use and quality of pharmacy drive-up services. J Am Pharm Assoc (Wash) 1999;39:338-45.
22. Szeinbach S, Seoanne-Vazquez E, Parekh A, Herderick M. Dispensing errors in community pharmacy: perceived influence of sociotechnical factors. Int J Qual Health Care 2007;19:203-9.
23. Ramez WS. Patients' perception of health care quality, satisfaction and behavioral intention: an empirical study in Bahrain. Int J Business Soc Sci 2012;3:131.