



ORIGINAL ARTICLE

Patients' Waiting Time in a University Health Clinic

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Abstract

Best practice management of a clinic can be measured through the achievement of appropriate waiting time and consultation time. These are important, especially in dealing with stable common cases seen in primary care. Among important associated factors include the number of patients per day, which can be various according to different operating days. This study aims to measure the waiting time and consultation time of common cases seen in the university health clinic for two weeks duration. The 'time in' and 'time out' information was captured on the information sheet attached to the patient's registration slip. A descriptive analysis was done for common complaints, waiting time and consultation time duration. Kruskal-Wallis test was used to identify the association between different working days with waiting time and consultation time. The results revealed a good mean waiting time 11.93 min (SD, 9.99) and consultation time 10.54 minutes (SD, 8.78) for the clinic. Waiting time is significantly associated with different operating days (P value < 0.05). The clinic's waiting and consultation time is acceptable according to the target set by the Ministry of Health. However, further modification can be done to improve the time management of the clinic, specifically for the busy day.

Keywords: *Waiting, Consultation, Time, Health Clinic, Audit*

Introduction

Waiting time is considered one of the important issues reflecting the performance of the clinic's staff and good management practice (Shalihin et al, 2018; Shalihin et al, 2019). Waiting time can be defined as the time a patient wait in the clinic before being seen by one of the medical staff (Alejandra et al, 2018; Oxtoby, 2010). The expected waiting time might differ from one centre to another. With regards to primary care clinics in Malaysia, an acceptable waiting time, according to the standard operating procedure set by the Ministry of Health Malaysia is 30

minutes (Ministry of Health Malaysia, 2016). For a clinic that is just in the beginning phase to provide its service to the public, one of the improvement areas that can be looked for is the satisfaction of the patient. The satisfaction can be measured by analysing the survey done directly among the patients or observe the waiting time as a whole (Ho, 2014; Jing Sun et al, 2017; Pillay et al, 2011; Shalihin et al, 2019; Tan, 2017).

Among the important determining factors for patient's waiting time in a clinic is the consultation time provided by the medical doctor (Hemmati et al, 2018; Oche & Adamu, 2013; Shalihin et al, 2018; Sriram & Noochpoung, 2018). Medical doctors play a significant role in assessing a patient's presentation and health issues. At the primary care level, an adequate systematic and holistic approach is indeed important to stratify the patient's risk and assess the need for urgent referral to tertiary centres. The list of medical disorders is numerous and uncountable. Therefore, a common standard approach is required to limit the consultation time accordingly (Alejandra, 2018; Murtagh, 2015). This is because, if the time spent by the doctor is inappropriately prolonged, long waiting time would be experienced by the subsequent patients in the clinic. Another important contributing factor include the number of staff providing the care and the number of patients attending the clinic at a particular time (Naiker et al, 2018; Oche & Adamu, 2013; Sriram & Noochpoung, 2018). If the number of patients is too much and cannot be handled by the medical doctor, the waiting area will become crowded with patients. Nevertheless, the number of patients also varies according to the days. For example, more patients tend to come to the clinic on Monday and Friday compared to other days due to unavailability of the service during the weekend. Thus, they tend to wait till Monday or decided to seek medical attention on Friday, just before the weekend. Moreover, these two days are among the preferred days a patient would like to request medical leave. Therefore, many patients are expected to visit the clinic on those days and therefore caused longer waiting time due to job burden to the health care providers.

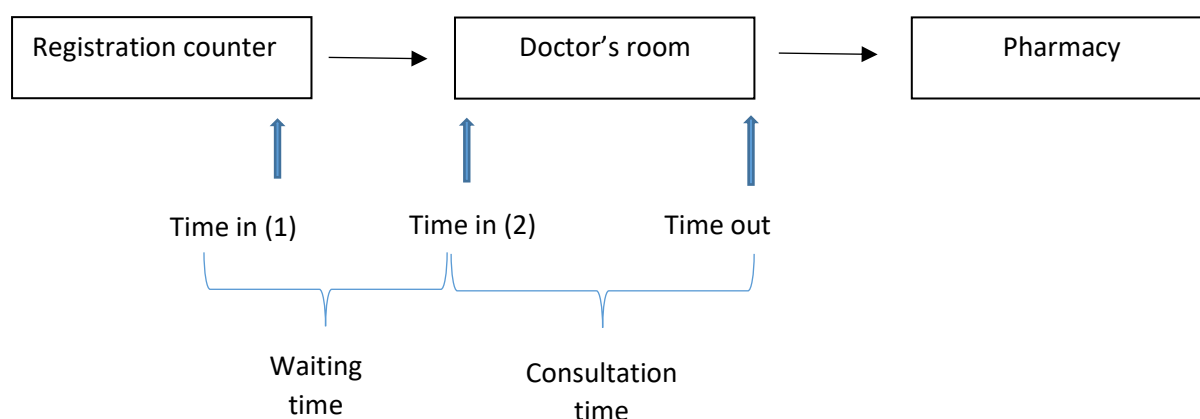
There were other similar studies done in Malaysia and Worldwide regarding the waiting time in the clinic (Hemmati et al, 2018; Ho, 2014; Jing Sun et al, 2017; Naiker et al, 2018; Oche & Adamu, 2013; Pillay et al, 2011; Shalihin et al, 2018; Shalihin et al, 2019; Tan et al, 2017). However, most of the studies were confined to specific departments in the hospital settings. Some studies were performed at the primary care clinic but did not emphasis to the patients with the common complaints. Furthermore, most of the clinics were already established in which their performance would be different from the clinic which is just beginning its services.

Methodology

A cross sectional audit on waiting time at the university health clinic in Kuantan was conducted from 18th July 2016 until 31st July 2016. These two weeks' clinical audit was regarded as adequate to assess the clinic's waiting time managed by the health care providers. For clinical audit, no sample size calculation is required. Selective convenience sampling was executed in which this audit only included stable walk-in patients for common outpatient complaints. Meanwhile, cases with chronic diseases, emergency conditions, wound care, psychosocial problems, maternal and child illness were excluded from the audit.

The information recorded on the registration sheet consists of the station's details and exact time for 'time in' and 'time out' of each station. The time was recorded by the respective dedicated staff at the registration counter, doctor's room and pharmacy counter. The pharmacy is the last station to be visited by each patient either to receive medication or to pay for the medical bill. Figure 1 below summarized the flow of a patient visiting the clinic.

SPSS version 23 was used for data entry and analysis. Data which were not normally distributed were analysed with non-parametric tests, namely Mann Whitney U test and Kruskal Wallis test. This article has been asked for publication approval from the Director General of Health Malaysia (Research ID: 57998).



*Time in 1 = Time recorded after patient received registered number

*Time in 2 = Time recorded after patient enter doctor's room

*Time out = Time recorded after doctor's consultation end

Figure 1: The patient's flow in the clinic and its stations involved for the recorded time.

Results and Discussion

355 adult patients visited the health clinic for common acute complaints. 67% of them were female with 48% complaints of upper respiratory tract infection symptoms. Other symptoms include gastrointestinal symptoms (19%), musculoskeletal symptoms (13%), urinary tract symptoms (9%), skin conditions (7%) and others (4%). Five medical doctors were available during the audit.

The mean waiting time for the patients while attending the health clinic was 11.93 minutes (SD = 9.99) with consultation time of 10.54 minutes (SD = 8.78) as shown in Table 1. The longest waiting time recorded was 58 minutes while the longest consultation time recorded was 50 minutes. Some patients were seen by the health care providers as soon as they received their registered number without the need for waiting (waiting time = zero minutes). Meanwhile, the shortest consultation time experienced by the patient during the audit was 1.00 minutes.

Table 1: Waiting time and consultation time at the health clinic

	Waiting time (s)	Consultation time (s)
Mean	11.93	10.54
Std. Deviation	9.996	8.778

The highest number of total patients per day for those two weeks duration was recorded on Tuesday. Waiting time is significantly associated with different working days, which is longest on Thursday and shortest on Wednesday as shown in Table 2 (Kruskal-Wallis test).

Table 3 meanwhile shows no significant association between different working days and consultation time provided by the medical doctors (Kruskal-Wallis Test).

Table 2: Association between Waiting time and Clinic Days

Day	Median Waiting Time	Interquartile Range	Kruskal Wallis p-value
Monday	10.50	14	P= 0.032*
Tuesday	8.00	9	
Wednesday	8.00	7	
Thursday	11.00	18	
Friday	10.00	13	

* Significant p-value <0.05; Kruskal-Wallis Test

Table 3: Association between Consultation time and Clinic Days

Day	Median Waiting Time	Interquartile Range	Kruskal Wallis p-value
Monday	8.50	7	P= 0.572
Tuesday	8.00	10	
Wednesday	9.00	9	
Thursday	7.00	11	
Friday	6.00	13	

* Significant p-value <0.05; Kruskal-Wallis Test

Waiting time and consultation time are interrelated key points in addressing the level of management care of a clinic (Shalihin et al, 2018; Shalihin et al, 2019; Hemmati et al, 2018; Oche & Adamu, 2013; Sriram & Noochpoung, 2018). Best time management by the healthcare providers not only will impose a positive impression on the patients, but also will enhance the quality of service provided by the clinic team. Nowadays, the public not only focus on the outcome of treatment given, but also measures the quality of care provided by the healthcare team, starting at the registration counter till the payment counter (Jing Sun et al, 2017; Malaysia, 2016; Murtagh, 2013; Murtagh, 2015). It is impossible to satisfy all patients at one time, but the services provided should be at par as the standard guidelines set by the Ministry of Health.

This study also focuses on measuring the duration of waiting time and consultation time in relation to different working days. Despite being the brand-new clinic running its services, the number of attendees is relatively comparable to other health clinics considering the statistic is only confined to patients with common acute complaints (such as fever, headache, abdominal pain and others). Like other health clinics, the commonest complaints are related to the upper respiratory tract and gastrointestinal system (Hemmati et al, 2018; Naiker et al, 2018; Oche & Adamu, 2013; Sriram & Noochpoung, 2018).

Surprisingly, the number of stable acute cases are lower on Monday and Friday. This is however unable to describe the total burden of the clinical management, as there are usually a higher number of follow-up cases, especially chronic diseases, antenatal and unstable cases at the beginning of the week, which is not captured by this study. Nevertheless, the relatively smaller number of common complaints' cases seen on those two days contradicts the common belief of high number of patients seeking medical leaves on Monday. This could be explained by the fact that majority of the population served by the clinic is the university community who are aware that such unethical act of seeking unnecessary medical leaves can easily be detected by the administration persons.

This study also proved that the five medical officers in the clinic were able to keep a good patient's waiting time of average of 11.93 minutes which is shorter compared to other previous studies (Hemmati et al, 2018; Ho, 2014; Jing Sun et al, 2017; Naiker et al, 2018; Oche & Adamu, 2013; Sriram & Noochpoung, 2018). This also reflects that the waiting time of various type of cases are also similar as all medical officers are eligible to see all cases without confining themselves to see a certain type of cases only. It also shows good teamwork and understanding between the clinicians in helping each other to see the cases as fast as they can but still maintaining holistic approach in the case management appropriately. The

teamwork is verified upon further explanation by the medical officers that they help each other in completing managing the remaining cases according to their time availability. Nevertheless, several cases exceed the 30 minutes waiting time (starting from registration until contact with first health care provider) set by the Ministry of Health with the maximum time reaching almost one hour (Malaysia, 2016). Thus, further modification and improvement measures still need to be done to avoid the incidence from recurs. For example, by providing a different registration serial number for those cases that requires longer assessment by the clinician especially maternal, child and geriatric cases. This will also promote mutual understanding between the staff and patients regarding the magnitude of cases present at certain times.

This study also proved that the waiting time of patients in the clinic is significantly associated with the different operating days (Table 2). Despite the common belief of longer waiting time on Monday, instead, this study captured the longest waiting time on Thursday followed by Friday and Monday. These can be explained by the fact that the communities that usually visit the clinic are different from those visiting government health clinics. Nevertheless, both days of Monday and Friday still had long patient's waiting time as seen in other similar health clinics in Malaysia as the public is unable to attend the clinic during weekends and will tend to settle their health issues on those days. The modification that can be done to improve the waiting time is by providing longer service hour examples extended till night or providing the services even during weekends to allow the patient to visit even during non-office hours. These have been practised in most government health clinics to cater the increasing number of patients and is proven to reduce the waiting time (Malaysia, 2016).

The most important contributing factor towards the duration of waiting time is consultation time (Jing Sun et al, 2017; Oche & Adamu, 2013; Naiker et al, 2018; Shalihin, 2018; Shalihin, 2019; Sriram & Noochpoung, 2018). This study showed that despite different numbers of patients seen per day, there is no significant difference in terms of consultation time spent by the clinicians. It is proved that each clinician maintained their professionalism in seeing each case accordingly and not rushing in their assessment to avoid mismanagement and malpractice. This is because, despite being grouped under common stable complaints, each case is still unique in its presentation and requires individualized approach and specific time management. Thus, previous practice guidelines provided suggestion to limit the consultation time without jeopardizing the consultation purposes (Alejandara, 2018; Oxtoby, 2010).

However, it is justifiable for the medical doctors to discuss with the patient at the beginning of the consultation regarding the shared decision of the consultation time required for that case (Alejandara, 2018; Murtagh, 2013; Murtagh, 2014; Murtagh 2015; Oxtoby, 2010). The average consultation time recorded in this clinic was 10.54 minutes which is indeed acceptable and comparable with previous studies. The duration is also justifiable for a stable common complaint such as upper respiratory tract infection. However, the maximum consultation time recorded of 50 minutes is extremely long for uncomplicated cases. Thus, a reminder system can be set in the doctor's calling system or computer's desktop to remind the clinician if the consultation time is exceeded from expected.

Conclusion

The clinic was able to achieve a good patient's waiting time and consultation time. The patient's waiting time is significantly associated with different operating days in which further modification can be done. Public education on the acceptable waiting time should always be implemented regularly to improve patients' satisfaction.

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