

Outpatient appointments and waiting time in a tertiary health facility in Jos

Akosu TJ¹, Afolaranmi T¹, Usar JJ¹ and Odunze P²

¹Department of Community Medicine, University of Jos, Jos

²Department of Community Medicine, Jos University Teaching Hospital, Jos, Nigeria

Correspondence: Akosu TJ. E-mail: akosu2002@yahoo.co.uk

Abstract

Background. *The system used to schedule outpatient appointments affects the time clients wait before seeing their doctors. The purpose of this study was to determine the appointment system used in Jos University Teaching Hospital and the waiting time before consultation.*

Methods. *A semi-structured interviewer administered questionnaire was used to collect data from 202 clients selected by multi-stage sampling technique. A trained observer recorded the time patients waited before seeing their doctor.*

Results. *Single block appointment system was used to schedule outpatient appointments for all the subjects. Median waiting time was 220 minutes (IQR 172.50 – 296.25 minutes). There was a significant relationship between type of Clinic and waiting time ($p=0.0003$). Most of the subjects (79.2%) were not happy with the time they spent waiting to see a doctor although about 57 percent of them were generally satisfied with the services they received in the Hospital.*

Conclusion. *Jos University Teaching Hospital practices block appointment system that results in long waiting time. Urgent action is needed to change this practice that contributes to patient's dissatisfaction.*

Key words: *Out-patient, Waiting time, Block appointment, JUTH.*

Introduction

According to the British Patient Charter, the recommended maximum waiting time for a patient in an out-patient Clinic is 30 minutes.¹ When medical practice continually minimizes client waiting time, it results in overall improvement in patient satisfaction.²⁻⁴ Despite the aforementioned recommendation, waiting time in various health facilities across Nigeria remains unacceptably long and accounts for one of the numerous factors responsible for poor uptake of health services.^{5-8,9,10} For instance, studies in Sokoto, Ogun and Lagos states have reported waiting times ranging from 42.89 minutes to 240 minutes.^{5-8,11-13} Long waiting time is a major source of patient dissatisfaction and adversely affect

patient's compliance with treatment regimens and clinical outcomes.¹¹ Other possible negative consequences of long waiting time include loss of man hours for patients, huge economic losses for the hospital and nation in general. Also, patients are exposed to nosocomial pathogens and infections since patients with infectious diseases often wait in the same waiting hall with others. Respiratory tract infections including tuberculosis and other air-borne diseases can be easily disseminated during the long waiting time. This problem can be mitigated by several measures including increasing the number of physicians attending to clients in the outpatient clinics.¹³ This of course requires an increase in the staff strength of the

facility with attendant budgetary requirement. Other ways to reduce waiting time include modified block scheduling and individual scheduling. In modified block scheduling a smaller number of patients are assigned to smaller segments of time throughout the day, such as hourly.¹⁴ Individual scheduling, the most commonly used scheduling technique in the USA occurs when a single patient is scheduled for a specific point in time, with the timing of the appointments determined according to the supply of care providers.¹⁵ In Nigeria however, observation by the authors indicate that most public health facilities use the single block scheduling method in which all patients to be seen during the clinic are scheduled at the same time such as morning or afternoon and then seen on a first-come first-served basis within that time frame. Patients are usually given 7.30 am or 8.00 am appointment yet some of them are seen by the doctor as late as 3.00 pm. The reasons for this delay which is wasteful and sometimes harmful to the patient have not been thoroughly studied and documented in our setting. The purpose of this study therefore was to determine the type of outpatient appointment system in use and assess patient waiting time in Jos University Teaching Hospital Jos, Nigeria.

Methods

A cross-sectional study was carried out in Jos University Teaching Hospital with 620 beds located in Jos the capital of Plateau state. The study population consisted of patients attending the out-patient clinics and the record officers responsible for scheduling out-patient appointments. The sample size was determined using the sample size formula for populations less than 10,000 and a prevalence of the factor under study of 84% (from a previous study) and at a significance of $p \leq 0.05$ to arrive at a minimum sample size of 196 and

adjusted to 202.^{16,17}

Data was collected in February and March 2018. Each clinic was visited on consecutive clinic days until the required sample size was attained. A multistage sampling technique was used to select the study subjects. Three outpatient Department clinics, the General Outpatient Department clinic (GOPD), Medical Outpatient Department clinic (MOPD) and the Surgical Outpatient Department clinic (SOPD) were selected by balloting from the list of outpatient clinics in the hospital. A systematic sampling method was then used to select study subjects in each of the selected clinics using the clinic's appointment register. The number of subjects selected from each of the clinics was proportional to the size of the patient population in that clinic. The patient population in each clinic was estimated by adding the total number of patients booked for the clinic in the preceding three months. The sampling interval in each clinic was determined using the number of patients to be selected from the clinic and the patient population in that clinic. The first patient was selected by balloting.

All adult clients of selected outpatient clinics who were attending the clinic on appointment were eligible to participate in the study. All the record officers responsible for scheduling appointments in the selected clinics were also enrolled in the study. Those who met the inclusion criteria but refused consent were excluded. Participants were informed about the study objectives and procedures and an informed consent obtained before being enrolled. The study was approved by the Jos University Teaching Hospital's Institutional Health Research Ethics Committee.

A semi structured interviewer administered questionnaire was used to collect data from patients about the time of their appointment and their satisfaction with the hospital's appointment system, the waiting time and the services they receive from the hospital. The appointment time of the patients was confirmed by looking at their appointment cards.

Four trained observers, two for the GOPD clinic and one each for the MOPD and SOPD were engaged to record the time patients walked into the waiting hall of the outpatient department and the time they entered the consulting room to see a doctor. This information was used to determine the waiting time before consultation. A semi-structured interviewer administered questionnaire was also used to collect data about the type of appointment from the record officers responsible for scheduling appointments in the studied clinics. Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 17. The data was skewed so the Kruskal Wallis test was used to test for relationship between type of clinic and median waiting time.

Results

Two hundred and two patients and ten record officers were studied. Most of the patients were young, males and married. Table 1 shows the socio-demographic characteristics of the study subjects. All the record officers were practicing single block appointment system (Table 2). All the subjects were given either 7.30 am or 8.00 am appointment in line with this appointment system (Table 3). The waiting time range was 40-440 minutes with a median of 220 minutes (IQR 172.50 – 296.25 minutes). There was a significant relationship between type of clinic and waiting time (Table 4). Most of the subjects (79.2%) were not happy with the time they had to wait to see a Doctor although 57 percent of them were satisfied with the other services they received in the Hospital. Technical competence of the Doctors was the commonest reason given for satisfaction with the Hospital's services while waiting time was the commonest reason given for dissatisfaction followed by the attitude of record staff/misplacement of patients' folders (Tables 5 and 6).

Table 1. Relationship between type of clinic attended and waiting time.

Parameters	n	Waiting Time (Minutes)		Test Statistics	p-value
		Median (IQR)			
Clinic Type					
GOPD	144	210.0 (173.0 – 280.0)			
MOPD	59	257.0 (205.0 – 315.0)	15.997*	0.0003	
SOPD	29	185 (140.0 – 215.0)			

* Kruskal Wallis Test

Table 2: Waiting time and respondent's satisfaction with waiting time (n=202).

Waiting time (Minutes)	Freq.(%)
< 220	107(53.0)
= 220	95(47.0)
Mean waiting time	Median waiting time
230.27 ± 85.58 minutes	220 minutes IQR 172.50 – 296.25 minutes
Satisfaction with waiting time	Freq, (%)
Happy	
Unhappy	42(20.8)
	160(79.2)

Table 3: Main Reasons for satisfaction/dissatisfaction with the hospital's services*

Reason	Satisfaction	
	Yes Freq.(%)	No Freq. (%)
Waiting time	17 (4.8)	75 (86.2)
Technical skill of Doctors	73(63.5)	2 (2.3)
Cleanliness of the hospital	17(14.8)	1 (1.1)
Friendliness of the staff	6 (5.2)	2 (2.3)
Record officer's performance	2 (1.7)	7 (8.0)
Total	115	87

*Multiple responses not allowed.

Discussion

This study shows that Jos University Teaching Hospital practices single block appointment system, all the patients were given early morning appointment 7.30 am or 8.00 am and the patients were seen by doctors on a first come, first served basis. This appointment system is no longer used in health facilities in developed countries and across some private hospitals in Nigeria.¹⁵ The Block method places no value on patients' time since it requires them to come congregate at the appointed time, before the commencement of the clinic, and then wait for the clinic to start before they are attended to.¹⁸ To obtain a good position on the waiting line, some patients arrive a couple of hours before the commencement of the clinic, further increasing their waiting time. It also makes it difficult for physicians to plan since they have no idea of when they would see the last patient of the day.

In this study the waiting time was expectedly long, 220 minutes (IQR 172.5-296.25) since all the patients were scheduled early in the morning. This is higher than the waiting time recorded in the hospital in previous studies.¹⁶ It is much higher than the time recorded in the General Outpatient Department of Lagos University Teaching Hospital and General Hospital Marina Lagos and more than double the time recorded in a study of the

General outpatient department of Usman Dan Fodio University Sokoto all of which also use the block appointment system.^{6-8,13}

Although several factors may have contributed to the excessively long waiting time including shortage of staff, and late commencement of consultation by doctors, we believe the block appointment system played a major role. Scheduling all the patients for the day's clinic for 7.30 am or 8.00 am in spite of the awareness that some of the patients may not be seen until well after noon requires that many of the patients wait for several hours. In this study some of the patients waited for 440 minutes (7.3hours) before seen.

The excessively long waiting time is not only a waste of the patient's time but an avoidable loss of man work hour that could be better used for productivity and national development. Several studies have shown that waiting time is one of the major factors affecting patient's satisfaction with services.¹¹ In our study, majority of the respondents (86.2%) who were dissatisfied with the hospital's services cited long waiting time as the main factor responsible for their dissatisfaction.

Majority of our respondents were unhappy with the time they spent waiting to see a doctor and we believe the appointment system practiced in the hospital may have contributed to the long waiting time

experienced by the respondents. We do not know why the Hospital practices the single block appointment system that obviously wastes patient's time and is at variance with the preference of their patients. Further studies are needed to understand this. A scattered (time specific) appointment system however, will reduce waiting time since patients will arrive at their scheduled time and see their doctor at that time or a few minutes later. This will eliminate the need to arrive hours before the commencement of the clinic just to take an early position on the queue.

One limitation of this study is that different observers recorded the waiting time in the different clinics and some may be more prone to distraction than others leading to inter observer variation. To reduce this error, subjects were requested to note the time they entered the consulting room or alert the observer when they were called in if they do not have a watch or cell phone.

Conclusion

Jos University Teaching Hospital practices single block appointment system that results in long patient waiting time at the out-patient clinics. Urgent action is needed to change this practice that contributes to patient's dissatisfaction. Management should work with the scheduling officers and doctors to commence time specific appointment system so that patients know at the time of booking, when they are to see their doctor and get to the clinic at that time or a few minutes earlier.

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