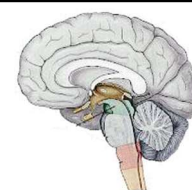Contents lists available online at:

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OUTPATIENT WAITING TIME: WHAT ARE THE FACTORS THAT AFFECTIT? (STUDY AT MUHAMMADIYAH BABAT GENERAL HOSPITAL)

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ABSTRACT

Outpatient waiting time refers to the duration from when patients register at the registration desk until they are called for a medical examination by a doctor at the target clinic. The standard waiting time is set at ≤ 60 minutes. Observations at Muhammadiyah General Hospital Babat revealed that 10 respondents experienced waiting times exceeding 60 minutes. This study aims to identify the factors affectingoutpatient waiting time. Utilizing a quantitative approach, the research sampled 96 respondents through simple random sampling. The independent variables included examination duration, service timeliness, and facilities and infrastructure, while the dependent variable was outpatient waiting time. Research instruments consisted of direct observation for measuring examination duration and waiting time, as well as questionnaires to assess service timeliness and the adequacy of facilities and infrastructure. The results, analyzed through multiple linear regression with T-test and F-test ($\alpha=0.05$), demonstrated that the examination duration was not significant (p-value = 0.308), while both the service timeliness (p-value = 0.000) and facilities and infrastructure (p-value = 0.000) were significant. The F-test indicated a significant combined effect of the independent variables on outpatient waiting time (p-value = 0.000) with a determination coefficient of 57.5%. The study suggests improvements in service timeliness by ensuring punctuality among registration staff and healthcare providers, including doctors. Furthermore, enhancements in facilities and infrastructure, such as increasing the number of outpatient registration counters, are recommended.

INTRODUCTION

Hospitals are crucial healthcare facilities which play a significant role in improving the health status of the Indonesian population. This role has become increasingly important in the context of evolving disease epidemiology, demographic changes, advancements in science and technology, andshifts in the socio-economic structure of society (Agustina et al., 2023). One of the services provided in hospitals is outpatient care, which offers preventive, therapeutic, and rehabilitative services to patients within less than 24 hours and is supported by other activities such as medical rehabilitation, laboratory, radiology, and pharmacy services (Purwoko & Nurwahyuni, 2022). Outpatient services act as a gateway for users to access hospital services, making them a key indicator in measuring hospital quality. Patients spend significant time in hospitals waiting to receive services from doctors or other professionals. Therefore, outpatient waiting time dramatically affects the quality of hospital services and care (Kurniawati & Kusumawardhani, 2023).

According to Bustani et al. (2015), waiting time is a patient's duration from registration until they enter the doctor's examination room. The length of waiting time reflects how well a hospital manages its services under patient conditions and expectations. According to the Minister of Health Decree No. 129

of 2008 concerning Guidelines for Preparing Minimum Service Standards for Hospitals, outpatientwaiting time is defined as the duration from patient registration at the outpatient registration desk until thepatient is called for examination by the doctor in the intended polyclinic, with a set standard of ≤ 60 minutes (Ministry of Health, 2008).

In Indonesia, studies in three provinces revealed varying outpatient waiting times: 55 minutes in Kediri, 100-200 minutes in Manado, and 100 minutes in Indramayu (Amalia & Era Pratiwi, 2022). Waiting times differ across healthcare facilities due to numerous factors, such as facilities and infrastructure, human resource capacity, patient registration speed, and patient visit patterns (Nguyen et al., 2018). Many patients complain about long waits to receive necessary services due to administrative issues like missing documents, doctors not adhering to scheduled work hours, and patients' lack of understanding about hospital procedures. Additionally, the limited number of staff in outpatient units whomust serve many patients exacerbates the problem (Kurniawati & Kusumawardhani, 2023).

Based on observations conducted by the researchers at Muhammadiyah Babat General Hospital, 10 outpatient respondents have had waiting times exceeding the standard. This indicates that all 10 patients (100%) had waiting times of ≥ 60 minutes. This duration does not comply with the standard of the Ministry of Health for outpatient services, which is ≤ 60 minutes for at least 80% of cases.

Several factors can prolong service waiting times. The first factor is the examination duration between doctors and patients, which depends on the type of examination and the patient's condition. This implies that the examination duration also includes the patient's waiting time before receiving direct service from the doctor (Agustina et al., 2023). The second factor is the timeliness of service. Timely and swift services can shorten patient waiting times and prevent backlogs (Mesah, 2023). The third factor is the availability of facilities and infrastructure, which is essential for speeding up the service process (Balqis Shofiana et al., 2019). Balqis Shofiana et al. (2019) found that the availability of supporting facilities and infrastructure, such as waiting areas at registration, online outpatient registration, computers for data entry, and information on service procedures, significantly affects the service process and patient waiting times.

A similar study by Purwoko & Nurwahyuni (2022) found that factors causing prolonged outpatient waiting times include doctors' lack of discipline in starting clinic schedules, scheduling surgeries concurrent with clinic hours, changing doctor schedules, patients arriving hours before the scheduled clinic time, and limited-service quotas. Based on the above explanations, this study aims to analyze the effect of examination duration, service timeliness, and facilities and infrastructure, partially and simultaneously, on outpatient waiting times at Muhammadiyah Babat General Hospital.

METHODS

This study utilized a cross-sectional quantitative research design, gathering data or making observations at a specific point in time (Abdullah et al., 2021). The study population consisted of 2,309 outpatients, from which a sample of 96 was selected through simple random sampling, ensuring each individual had an equal chance of being chosen (Abdullah et al., 2021). The research took place at the outpatient clinic of Muhammadiyah Babat General Hospital in Lamongan. The independent variables were examination duration (X1), service timeliness (X2), and facilities and infrastructure (X3), while the dependent variable was outpatient waiting time (Y). The research instruments included observations for the examination duration and waiting time variables, and questionnaires for the service timeliness and facilities and infrastructure variables. Data analysis was performed using multiple linear regression analysis, which involved assessing the relationship between multiple independent variables and thedependent variable.

Both T-tests and F-tests were conducted to determine the strength of these relationships (Masiaga et al., 2022).

RESULTS AND DISCUSSION

The research was conducted at the outpatient clinic of Muhammadiyah Babat General Hospital. This study presents general and specific data as follows:

Tabel 1. Characteristics of Respondents

Characteristics	Frequency	Percentage (%)
Gender		
Male	43	45
Female	53	55
Age (years)		
17-25	5	5
26-35	21	22
36-45	26	27
46-55	29	30
56-65	13	14
>65	2	2
Education		
Elementary school	19	20
Junior high school	25	26
Senior high school	42	44
Diploma I	1	1
Diploma II	1	1
Bachelor	6	6
Master	2	2
Polyclinic visits		
Obgyn	4	4
Orthopedic	6	6
Teeth	3	3
Eye	21	22
Internal medicine	23	24
General surgery	11	12
Cardiology	9	9
Neurology	19	20

Based on the table above, most respondents are female, totaling 53 individuals, representing 55% of the sample. Nearly half of the respondents fall into the early elderly age category, aged 46-55, comprising 29 individuals or 30%. Almost half of the respondents have a high school education, with 42 individuals accounting for 44%. A small portion of the outpatient visits were to the internal medicine clinic, with 23 individuals or 24%.

Table 2. Variable analysis of dependent and independent variables

Characteristics	Frequency	Percentage (%)
Independent variables		
Examination duration		
Slow	71	74
Fast	25	26
Service timeliness		
Poor	1	1
Reasonably good	21	22
Good	74	77
Facilities and infrastructure		
Poor	0	0
Reasonably good	14	15
Good	82	85

Table 3. Variable analysis of dependent and independent variables

Characteristics	Frequency	Percentage (%)
Dependent variable		
Waiting time		
Slow	36	37
Fast	60	62

Table 2 and Table 3 shows that the distribution of respondents according to the observation results on the examination duration is categorized as "fast" if it is less than 6 minutes and "slow" if it is more than 6 minutes. Based on the "fast" and "slow" categories, most respondents had a fast examination duration, totaling 71 individuals or 74%. According to the service timeliness questionnaire results, it is categorized as "good", "reasonably good", and "poor". Almost all respondents perceived the service as "good", totaling 74 individuals or 77%. Facilities and infrastructure are categorized as "good", "reasonably good",and "poor". Almost all respondents perceived them as "good", totaling 82 individuals or 85%. The dependent variable is categorized as "fast" if the waiting time is less than 60 minutes and "slow" if it is more than 60 minutes. Most respondents had a slow outpatient waiting time, totaling 60 individuals or 62%.

Table 3. T-test

	Model	B	t	Sig.
1	(Constant)	-307.041	-9.049	0.001
	Examination duration	0.826	1.025	0.308
	Service timeliness	5.306	5.835	0.001
	Infrastructure	5.842	6.899	0.001

Based on Table 3, the significance value for the examination duration variable is 0.308, greater than 0.05, and the t-value is 1.025, less than the t-table value of 1.661. Therefore, examination duration (X1) had no effect on waiting time. The significance value for service timeliness was 0.000, less than 0.005, and the t-value was 5.835, greater than the t-table value of 1.661. Thus, service timeliness (X2) affected waiting time. The significance value for facilities and infrastructure was 0.000, less than 0.05, and the t-value was 6.899, greater than the t-table value of 1.661. Therefore, facilities and infrastructure (X3) affected waiting time. The resulting regression equation model was Y = -307.041 + 5.306 X2 + 5.842 X3.

Table 4. F-test

	Model	df	F	Sig.
1	Regression	3	43.912	0.001
	Residual	92		
	Total	95		

Table 5. Determination coefficient

Model	R	R Square	Adjusted R Square
1	0.767	0.589	0.575

Based on Table 4, the F-value is 43.912, and the significance value is 0.000. Since the significance value was 0.000, which was less than 0.05, and the F-value was 43.912, which was greater than the F- table value of 3.095. It can be concluded that Examination Duration, Service Timeliness, and Facilities and Infrastructure had a simultaneous effect on outpatient waiting time. According to Table 5, the Adjusted R Square value is 0.575, meaning that the variables examination duration, service timeliness, and facilities and

infrastructure simultaneously affected the outpatient waiting time by 57.5%.

1. **The Effect of Examination Duration on Outpatient Waiting Time**

Based on statistical tests using multiple linear regression with a T-test, the significance value of the Examination Duration variable was 0.308, greater than 0.05, and the t-value was 1.025, less than the t-table value of 1.661. Therefore, it can be concluded that the Examination Duration variable had no significant affect on Outpatient Waiting Time. Research by Agustina et al. (2023) indicated that there were currently no regulations governing the duration of patient consultations, especially for specialist doctors, from the Ministry of Health or the Social Security Administration for Health. This is due to several affecting factors, including the number of doctor practice hours, the number of patients, the type of illness, and others. Another factor causing prolonged service time is that each patient requires different examinations depending on what the doctor and nurse will perform (Rofi'i & Jarihatunningsih, 2014).

Field observations conducted by the researcher revealed that the duration of patient examinations depended on the illness and the type of examination performed by the doctor. Some patients required extended consultation times or additional supporting examinations, while others do not. This is evidenced by the fact that most respondents had quick examination durations, namely 74%. Another study by Permana, Ivan. (2022) stated that patient examinations had run well, but the duration of actions and consultations varied. The varying examination durations are due to the type of illness the patient suffers from.

2. **The Effect of Service Timeliness on Outpatient Waiting Time**

Research on outpatient patients revealed that one person (1%) perceived the service timeliness factor as inaccurate, 21 people (22%) perceived it as fair, and 74 people (77%) perceived it as good. Statistical tests using multiple linear regression with a T-test showed a significance value for the service timeliness variable of 0.000, less than 0.05, and a t-value of 5.835, greater than the t-table value of 1.661. Thus, it can be concluded that the service timeliness variable significantly affects Outpatient Waiting Time. This finding aligns with the research by Purwiyanti et al. (2019), which incidated a correlation between service timeliness and outpatient waiting time, with a p-value of 0.018.

Field observations conducted by the researcher found that patients often waited a long time for their turn after completing registration. This is due to the large number of patients waiting to enter the doctor's examination room and doctors' delays in starting clinic hours, which prolonged outpatient waiting times. While health workers at the clinic arrived on time, doctors often delayed starting their services, contributing to longer patient waiting times. Research by Agustina et al. (2023) concluded that doctor delays or their arrival time at the hospital are dominant factors related to outpatient waiting times. Doctor delays are linked to prolonged waiting times due to the limited number of specialists, practicing elsewhere, or making rounds in inpatient wards.

3. **The Effect of Facilities on Outpatient Waiting Time**

Research conducted on outpatient patients at Muhammadiyah Babat General Hospital revealed that 14 people (15%) perceived the facilities as reasonably good, and 82 (85%) perceived them as good. Statistical tests using multiple linear regression with a T-test showed a significance value for the facilities variable of 0.000, less than 0.05, and a t-value of 6.899, greater than the t-table value of 1.661. Thus, it can be concluded that the facilities variable significantly affected outpatient waiting time. These findings are supported by research by Amalia and Era Pratiwi (2022), which demonstrated that facilities significantly impact waiting times in the Outpatient Department of Luwuk Banggai General Hospital. With a p-value of 0.000, it can be concluded that infrastructure had a notable effect on service waiting times.

Based on the field observations conducted by the researchers, the availability of facilities and

infrastructure was satisfactory, as patients visiting the hospital did not face difficulties in obtaining queue numbers due to the implementation of an electronic system. Information regarding the procedures for outpatient services was also available and easily understood. However, the registration counters were insufficient, with only one counter equipped with two computers for entering patient data, whether for BPJS or general patients. This shortage inevitably leads to a backlog of patients at the registration counter, resulting in prolonged waiting times for outpatients, with 62% of respondents experiencing long wait times.

Online registration was also available, which could minimize outpatient waiting times as patients can register beforehand. However, some patients found online registration challenging. Nearly half of the respondents, particularly those in the early elderly age group of 46-55 years, with 30% not using online outpatient registration services, prefered to register in person at the outpatient registration counter. Additionally, the absence of loudspeakers in the polyclinic area resulted in patients not hearing their names when called for examination. This aligns with the findings of Laeliyah and Subekti (2017), who stated that improper placement and arrangement of polyclinics could hinder service delivery and extend waiting times.

4. The Effect of Length of Examination, Service Timeliness, Infrastructure Facilities on Outpatient Waiting Time

Based on the research conducted on outpatients at Muhammadiyah Babat General Hospital, the statistical test results using multiple linear regression with an F-test revealed that the calculated F value in this study was 43.912 with a significance value of 0.000. Since the significance value of 0.000 was less than 0.05 and the calculated F value of 43.912 was greater than the F table value of 3.094, it can be concluded that there was a significant simultaneous influence of examination duration, service timeliness, and facilities on outpatient waiting time. With an Adjusted R Square value of 0.575, this indicates that examination duration, service timeliness, and facilities collectively accounted for 57.5% of the variance in outpatient waiting time.

The research findings of Permana, Ivan. (2022) indicate that patient examinations have been conducted well, but the duration of patient procedures and consultations varies significantly. The differing examination durations are due to the nature of the disease's patients suffer from. Mesah (2023) also found that service timeliness and facilities are related to outpatient waiting times. Service timeliness affects outpatient waiting times because timely and swift service, conducted as scheduled, will minimize patient waiting times and prevent patient congestion at both the registration counters and polyclinics. Furthermore, adequate and well-maintained facilities will ease the workload of staff, resulting in shorter service times (Mesah, 2023).

Therefore, it is expected that the hospital management pays attention to factors such as examination duration, service timeliness, and facilities to maintain the quality of outpatient services. In summary, the variables of examination duration, service timeliness, and facilities simultaneously influence outpatient waiting times.

CONCLUSIONS AND RECOMMENDATIONS

Based on statistical calculations using the T-test, it can be concluded that there is no significant effect of examination duration on outpatient waiting time. However, service timeliness and facilities have a substantial effect on outpatient waiting time. The F-test results indicate a simultaneous effect on examination duration, service timeliness, and facilities on outpatient waiting time at Muhammadiyah Babat General Hospital.

The findings of this study are expected to inform hospital management in addressing outpatient waiting times, which currently do not meet the Ministry of Health's standard of ≤ 60 minutes. It is

recommended to increase the number of outpatient registration counters, as there is presently only one counter with two staff members; separating the registration counters for online and walk-in patients to reduce re-registration time; ensuring that both registration and healthcare staff, including doctors, adhere to scheduled times; and installing loudspeakers in outpatient clinics to facilitate patient calls.

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