

# WAITING TIME OF PHARMACY SERVICE AS AN INDICATOR OF PATIENT SATISFACTION: A SYSTEMATIC REVIEW

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## ABSTRACT

**Background:** The success of health service is reflected in patient satisfaction. Attributes of quality health service included the speed of pharmaceutical service. The Community Satisfaction Index Survey conducted by the Ministry of Health in 2017 in several government hospitals reported patients complained about the duration of drug preparation. This study aimed to systematically review the waiting time of pharmacy service as an indicator of patient satisfaction.

**Subjects and Method:** A systematic review was conducted by collecting articles obtained through PubMed and Scopus databases. The keywords were “pharmacy service”, “waiting time”, and “satisfaction”. Articles were limited to those in English and published from 2010 to 2019. The data were selected by PRISMA flow diagram method.

**Results:** Five studies reported that waiting time for pharmaceutical service, including drug preparation, affected patient satisfaction. Intervention in the pharmaceutical service system both in hospitals and in general dispensaries might improve waiting times for drug preparation. Interventions vary from dispensing systems to drive-thru drug taking, without adding additional human resources (HR).

**Conclusion:** Patient satisfaction increases with the short waiting time in drug preparation. Alternative intervention needs to be done as an effort to shorten the waiting time for drug preparation if the addition of HR is not possible.

**Keywords:** pharmaceutical service, waiting time, satisfaction

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## BACKGROUND

The performance and service quality of a community service institution can be judged by how and to what extent the institution can provide satisfaction to its customers. The hospital as one of the community service institutions has a number of performance indicators whose achievements can illustrate the quality of its services.

Patient satisfaction as a customer of a hospital is influenced, among others, by the speed of the various services available in the hospital. The success of health services is reflected in customer satisfaction, including the speed of pharmaceutical services. Customer satisfaction surveys conducted at various hospitals show that the speed of pharma-

ceutical services has also influenced customer satisfaction.

Suryana in his study at the Atma Jaya Hospital, Jakarta, found that customer satisfaction rates for pharmaceutical services are still low due to the long waiting time for drug services. The drug preparation time both for concoction and non-concoction drugs were spent more for non value added activities rather than value added activities. (Suryana, 2018).

Rusdiana et al. (2015) reported that the longer the time spent completing a doctor's prescription would reduce the level of outpatient satisfaction. The waiting time for drug preparation that was considered to

provide customer satisfaction in outpatient was not more than 13 minutes.

From a survey of the Community Satisfaction Index (CSI) conducted by the Ministry of Health in 2017 in several government hospitals, complaints about the length of pharmaceutical services were still found, although overall the CSI value is already quite high (Ministry of Health, 2017). The Waiting Time for Non-concoction Drugs (WTOJ) and the Waiting Time for Concoction Drugs (WTOR) are performance indicators for Minimum Service Standards (MSS) in hospitals (Ministry of Health, 2008). The achievement of the WTOJ and WTOR targets can be an illustration of the quality of services at the hospital.

Septini (2012) stated in her thesis that there are several factors that affect the Prescription Service Waiting Time, namely the absence of certain drugs, the doctors' non-compliance for writing prescriptions according to the Drug List, unreadiness of the computer program, and an imperfect information system network.

This systematic review was conducted to find out the extent to which innovation and improvement in pharmaceutical service time will affect the level of customer satisfaction. Through this systematic review, it is expected to assess the effect of the speed of pharmaceutical services on patient satisfaction with various innovations and improvement efforts carried out in various places.

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## SUBJECTS AND METHOD

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### 1. Study Design

The review was done by collecting articles obtained through PubMed and Scopus search engines. There were 3 keywords used, namely pharmacy service, waiting time, and satisfaction.

### 2. Inclusion and Exclusion Criteria

Articles were limited to those in English and published from 2010-2019.

### 3. Data Extraction

The PRISMA protocol (Preferred Reporting Items for Systematic Reviews and Meta Analyzes) was used to filter articles that were appropriate for this systematic review. In the initial search with 1 keyword (pharmacy service), 12607 documents were obtained from PubMed and 1199 documents from Scopus. After further filtering with 3 keywords, namely "pharmacy service" AND "waiting time" AND "satisfaction", and manual selection to filter multiple findings and identification according to criteria, 5 studies were found that met the search criteria.

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## RESULTS

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Lau et al. (2018) examined patient satisfaction with pharmaceutical services by comparing Value Added Service (VAS) and Traditional Counter Service (TCS) services. VAS is an innovative pharmaceutical service carried out in Malaysia to serve recurrent drug prescriptions. These include drive-through services, requests via SMS, e-mail or fax, all of which aim to improve patient services by reducing waiting times for drug preparation.

From this study it was found that more respondents with TCS systems expressed dissatisfaction compared to customers with VAS system services, both overall and technically. The lowest satisfaction value was for drug waiting time at the pharmaceutical counter. This study gave almost the same results as other studies regarding VAS in different places (Lau et al., 2018).

Another study conducted by Loh et al in 2014-2015 aimed to evaluate the improvement of VAS services after a promotional campaign at Queen Elizabeth Hospital, as well as the factors that affect patient waiting times. The study found that patient waiting time in pharmaceutical services was affected by the number of pharmacy staff, the number of pharmacy counters, the number of pres-

criptions served, and the number of recurrent drug prescriptions. The presence of VAS has the potential to improve waiting times because it reduces the number of recurrent drug prescriptions (Loh et al., 2017).

There were 4 large groups which were suspected to be the cause of the long waiting time before the study, namely the lack of personnel/ human resources, the large number of patients, the increase in prescription writing errors, and the workflow of preparation of drugs that have not been good. With the results of the study that the number of pharmacy staff was one of the factors that affect waiting times, it can be assumed that a shortage of pharmacy workers will cause accumulation of prescriptions to be served, especially with the increasingly busy medical services at certain hours which is known as the bottleneck situation (Loh et al., 2017).

A cross sectional study using questionnaires conducted by Aziz et al., in 2016-2017 in Punjab, examined patient satisfaction with various aspects of pharmaceutical services. It was found that half of the respondents were not satisfied with the waiting time for pharmaceutical services. A study conducted at this community pharmacy service shows lower levels of customer satisfaction compared to hospital services. Unfortunately no mention of any factors that affect the length of waiting time for pharmaceutical services (Aziz et al., 2018).

Sun et al (2017) intervened to streamline consultation time and prescription making by utilizing Hospital Information Systems to then see the impact on pharmaceutical waiting time and patient satisfaction. They found that disciplining physicians to start polyclinic service hours could prevent the buildup of prescriptions so that pharmaceutical waiting times could be reduced and patient satisfaction increased.

Nigussie and Edessa's study illustrated how patient satisfaction with pharmaceutical

services in 2 hospitals. The results show that waiting time for pharmaceutical services is still one of the causes of patient dissatisfaction. Dissatisfaction with pharmaceutical services is influenced by several factors, including marital status and the education level of respondents (Nigussie & Edessa, 2018).

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## DISCUSSION

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All five studies showed that patient satisfaction with health services was affected by the waiting time of pharmaceutical services, including drug preparation. Interventions in the pharmaceutical service system both in hospitals and in general dispensaries can improve waiting times for drug preparation. Many things can be the cause of the long waiting time for drug preparation, including the accumulation of prescriptions that must be served during peak hours of service.

Results of all five studies reviewed are similar to the results of studies in Atma Jaya Hospital, Jakarta (Suryana, 2018) and in Tangerang (Rusdiana et al., 2015). According to SERVQUAL theory of Parasuraman, there are 5 gaps between perceived services and expected services. Dissatisfaction will arise if one of the gaps appear. All five studies reviewed showed the presence of this gap, which was the gap between expected services and experienced services. In principle, patients do not want to wait too long to get their medication, so efforts should be made so that patients do not have to wait too long. Many things can be done without the addition of human resources (HR), for example by providing drive-thru services or delivering drugs to patients' homes.

It can be concluded that the level of patient satisfaction in health care will increase if the waiting time for drug preparation can be shortened. Intervention needs to be done as an effort to shorten the waiting time for drug preparation as an alternative if the addition of human resources is not possible.

Table 1. Elements of PRISMA

No	Author name (year)	Title	Journal	Research purposes	Method	Research result
1	Lau et al. (2018)	Satisfaction of patients receiving value added-services compared to traditional counter service for prescription refills in Malaysia	Pharmacy Practice	To compare satisfaction of patients receiving VAS and TCS for prescription refills in the outpatient pharmacy department of Port Dickson Hospital.	Cross sectional study	Respondents were generally more satisfied with VAS compared to TCS for prescription refills. Mail pharmacy was the most satisfied service, followed by appointment card service and integrated drug dispensing system
2	Loh et al. (2017)	Impact of value added services on patient waiting time at the ambulatory pharmacy Queen Elizabeth Hospital	Pharmacy Practice	To evaluate the impact of VAS uptake following promotional campaign towards patient waiting time and to explore factors that may affect patient waiting time at the Ambulatory Pharmacy, Queen Elizabeth Hospital	Quasi experimental study	Patient waiting time at the Ambulatory Pharmacy improved with increased in VAS registration. The impact of increased VAS uptake on patient waiting time resulted from reduction in refill/ recurrent drug prescriptions. Patient waiting time is influenced by number of pharmacy technicians, number of pharmacy counters, number of prescriptions and number of refill prescriptions
3	Aziz et al. (2018)	Patient Satisfaction with Community Pharmacies Services: A Cross-Sectional Survey from Punjab; Pakistan.	Int J Environ Res Public Health.	To determine the needs of patients and the current standards of pharmacies	Cross sectional study	Low level of patient satisfaction with regard to community pharmacy services in Pakistan. Half of the patients were

						dissatisfied with the waiting time
4	Sun et al. (2017)	Reducing waiting time and raising outpatient satisfaction in a Chinese public tertiary general hospital-an interrupted time series study	BMC Public Health	Reducing waiting times and increasing patient satisfaction at Fujian Provincial Hospital	Longitudinal study	Hospitals use integrated health information systems to support quality improvement that is well designed to reduce waiting times and increase patient satisfaction.
5	Nigussie and Edessa (2018)	The Extent and Reasons for Dissatisfaction from Outpatients Provided With Pharmacy Services at Two Public Hospitals in Eastern Ethiopia	Frontier of Pharmacology	Explore the causes of dissatisfaction in outpatients receiving pharmaceutical services.	Cross sectional study	Waiting time for services is still one of the causes of dissatisfaction with pharmaceutical services

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