

**ANALYSIS OF THE QUALITY OF PHARMACEUTICAL  
SERVICES ON THE SATISFACTION OF PATIENTS WITH  
TYPE 2 DIABETES MELLITUS AT ROYAL PRIMA  
HOSPITAL, MEDAN CITY**

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**Abstract**

Type 2 Diabetes Mellitus (DMT2) is one of the non-communicable diseases with high prevalence in Indonesia and requires long-term treatment management. Pharmaceutical services have an important role in supporting DMT2 treatment, but the results of the initial survey show that some outpatients at Royal Prima Hospital Medan are not satisfied with the services provided. This study aims to analyze the relationship between the quality of pharmaceutical services and the level of satisfaction of DMT2 patients. This study used a quantitative design with a cross-sectional approach, involving 100 DMT2 outpatient respondents. Data was collected using questionnaires that have been tested for validity and reliability. The results of the univariate analysis showed that most respondents rated the aspects of physical facilities (83%), reliability (82%), assurance (85%), and empathy (85%), but responsiveness was rated as poor (53%). As many as 90% of respondents were satisfied with the service as a whole. The results of bivariate analysis showed that there was a significant relationship between all dimensions of pharmaceutical service quality and patient satisfaction ( $p < 0.05$ ). Multivariate analysis identified that physical means ( $OR = 2.240$ ;  $p = 0.027$ ) and assurance ( $OR = 2.767$ ;  $p = 0.007$ ) were the most influential factors on patient satisfaction. This study concludes that the quality of pharmaceutical services has a significant effect on DMT2 patient satisfaction, with recommendations for increasing responsiveness as a top priority.

**Keywords:** Quality of Service, Hospital Pharmacy, Patient Satisfaction, Type 2 Diabetes Mellitus, Royal Prima Hospital

**INTRODUCTION**

Diabetes Mellitus (DM) is one of the non-communicable diseases that is currently of global concern due to its high prevalence and large financing burden, especially type 2 DM (DMT2) which is the most common form and the highest cause of death in the world (Fatimah, 2015). Data from the International Diabetes Federation (IDF) in 2022 shows that there are 540 million people with diabetes worldwide. Indonesia itself is ranked fifth with the number of

sufferers reaching 19.5 million people, and this figure is predicted to increase to 28.6 million in 2045 (IDF, 2022).

At Royal Prima Hospital Medan City, patients with type 2 DM are one of the groups that dominate outpatient services. In the management of this disease, pharmaceutical services play an important role, both in the procurement of drugs, patient education, and in ensuring the quality of life of patients. Pharmaceutical services include activities that are directly related to patients and aim to achieve optimal therapeutic results, as well as improve the quality of life of patients (Menkes, 2009; Rusli, 2016).

However, preliminary survey results showed that 55% of outpatient DMT2 patients were dissatisfied with pharmaceutical services, especially regarding medication waiting times and lack of responsiveness of officers. This dissatisfaction shows the need to improve the quality of pharmaceutical services, especially in terms of efficiency and communication (Ferdi et al., 2023).

The quality of service greatly affects the level of patient satisfaction. The SERVQUAL model developed by Parasuraman et al. (1988) identifies five main dimensions in service quality, namely: tangibles, reliability, responsiveness, assurance, and empathy. These dimensions are the basis for assessing the quality of pharmaceutical services on patient satisfaction, especially DMT2 patients (Parasuraman et al., 1988).

Previous studies have shown that effective communication between pharmacists and patients, speed of service, and availability of medications contribute greatly to patient satisfaction. Therefore, improving the quality of pharmaceutical services needs to be focused not only on physical facilities and the availability of drugs, but also on interpersonal interaction and adequate information.

Through this study, an analysis was carried out on the influence of the quality of pharmaceutical services on the satisfaction of patients with type 2 DM at Royal Prima Hospital, Medan City, with the hope that it can be the basis for policy making to improve the quality of services at the hospital.

## **IMPLEMENTATION METHOD**

This study uses a quantitative approach with a cross-sectional design which aims to analyze the relationship between the quality of pharmaceutical services and the satisfaction level of patients with Type 2 Diabetes Mellitus at Royal Prima Hospital, Medan City. The study was conducted from May to July 2023 at the hospital's Pharmacy Installation, focusing on outpatients who received pharmaceutical services during the study period.

The population in this study is all outpatients with Type 2 Diabetes Mellitus who receive services at the Pharmaceutical Installation of Royal Prima Hospital. The sampling technique used is accidental sampling, which is by taking patients who meet the inclusion criteria and are coincidentally present at the time of data collection. The inclusion criteria include patients who are at least 18 years old, can communicate well, are willing to be respondents, and have received pharmaceutical services. The total number of respondents who were successfully collected and analyzed in this study was 100 people.

Data collection was carried out using a closed questionnaire that had been tested for

validity and reliability. The questionnaire includes two main parts, namely: first, an assessment of the quality of pharmaceutical services based on the five dimensions of the SERVQUAL model, namely tangibles, reliability, responsiveness, assurance, and empathy; and second, measuring the level of patient satisfaction with the services received. All items in the questionnaire were arranged on a four-point Likert scale, ranging from "disagree" to "strongly agree".

The data obtained was analyzed using SPSS software. Univariate analysis was conducted to describe the frequency distribution and percentage of respondents' characteristics as well as their perception of each variable. Furthermore, bivariate analysis was carried out using the Chi-Square test to determine the relationship between each dimension of service quality and patient satisfaction. To determine the dominant factors that affect patient satisfaction, a multivariate analysis was carried out using the multiple logistic regression method.

This research has obtained permission from the management of Royal Prima Hospital Medan City. Before the interview, each respondent was given an explanation regarding the purpose, benefits, and confidentiality of the data in this study. Consent to participation is obtained orally and respondents are given the freedom to refuse or terminate participation at any time. All data collected is kept confidential and is only used for scientific purposes.

## RESULTS AND DISCUSSION

Table 1 Characteristics of respondents, Based on gender, as many as 75 research respondents were female (75%) and 25 others were male (25%) and the average age of the study respondents was 42.89 – 14.37 years.

Table 2 The results of the univariate analysis show that most respondents rated the quality of pharmaceutical services at Royal Prima Hospital Medan City as good in almost all dimensions. The dimension of physical facilities was rated good by 83% of respondents, reliability by 82%, assurance and empathy by 85% respectively. However, in the responsiveness dimension, only 47% rated it good, while 53% rated it poorly. Overall, 90% of patients were satisfied with pharmaceutical services, and only 10% were dissatisfied. These findings show that the quality of pharmaceutical services is assessed positively by the majority of patients, but the responsiveness aspect needs to be a major concern to be improved.

Table 3 The results of the bivariate analysis show that almost all dimensions of pharmaceutical service quality have a significant relationship with the satisfaction of Type 2 Diabetes Mellitus patients at Royal Prima Hospital, Medan City. The dimensions of physical means, reliability, responsiveness, and empathy showed a  $p < 0.05$ , which is statistically significant. The empathy dimension was the most powerful factor influencing patient satisfaction ( $OR = 13.5$ ;  $p = 0.001$ ), followed by physical means ( $OR = 10.77$ ), reliability ( $OR = 9.75$ ), and responsiveness ( $OR = 9.41$ ). Meanwhile, the assurance dimension was not significant ( $p = 0.077$ ), although it showed a positive tendency towards satisfaction. These findings suggest that responsive, empathetic, and well-facility-supported pharmaceutical services tend to significantly improve patient satisfaction.

Table 4 The results of the multivariate analysis show that of the five dimensions of the quality of pharmaceutical services, only physical facilities ( $p = 0.027$ ;  $Exp(B) = 2.240$ ) and

collateral ( $p = 0.007$ ;  $\text{Exp}(B) = 2.767$ ) which significantly affects patient satisfaction. This means that patients who assess well on these two dimensions have a greater chance of feeling satisfied. Other dimensions such as reliability, responsiveness, and empathy did not show significant influence in the regression model. Thus, physical facilities and guarantees are the main factors that affect patient satisfaction with pharmaceutical services at Royal Prima Hospital Medan City.

**Table 1. Characteristic Research Respondents**

Characteristic	Frequency (n=100)	Percentage (%)
Age		
< 43 years old	46	46
≥ 43 years old	54	54
Gender		
Man	25	25
Woman	75	75

**Table 2. Results of univariate analysis**

Quality of service	f	%
Physical Facilities		
Good	83	83.0
Less good	17	17.0
Reliability		
Good	82	82.0
Less good	18	18.0
Responsiveness		
Good	47	47.0
Less good	53	53.0
Guarantee		
Good	85	85.0
Less good	15	15.0
Empathy		
Good	85	85.0
Less good	15	15.0
Satisfaction		
Good	90	90.0
Less good	10	10.0

**Table 3 Results of bivariate analysis**

Quality of service	Patient Satisfaction				Total f      %		P- value	GOLD (95% CI)
	Good n	%	Not Good n	%				
Physical Facilities								
Good	79	87.8	11	12.2	90	100,0	0,001	10.773 (2.620- 44.287)
Not Good	4	40.0	6	60.0	10	100,0		
Reliability								
Good	78	86.7	12	13.3	90	100	0,002	9.750 (2.396- 39.679)
Not Good	4	40.0	6	60.0	10	100		
Responsiveness								
Good	46	51.1	44	48.9	90	100,0	0,018	9.409 (1.144- 77.370)
Not Good	1	10.0	9	90.0	10	100,0		
Guarantee								
Good	87	96.7	3	3.3	90	100,0	0,077	7.250 (1.052- 49.957)
Not Good	8	80.0	2	20.0	10	100,0		
Empathy								
Good	81	90.0	9	10.0	90	100,0	0,001	13.500 (3.197- 57.004)
Not Good	4	10.0	6	60.0	10	100,0		

**Table 3 Result Multivariate Analysis**

No.	Variable	B	Sig	Exp (B)	95% CI	
					Lower	Upper
1	Physical Facilities	0.203	0.027	2.240	0.023	0.383
2	Reliability	-0.288	0,307	0.281	0.073	1,080
3	Responsiveness	0.098	0.070	1.830	0.008	0.205
4	Guarantee	0.335	0.007	2.767	0.095	0.576
5	Empathy	0.181	0.065	1.868	0.110	0.373

This study discusses the effect of the quality of pharmaceutical services on the satisfaction of patients with Type 2 Diabetes Mellitus (Type 2 DM) at Royal Prima Hospital, Medan City. The results showed that most respondents expressed satisfaction with pharmaceutical services, although there were several aspects that still needed improvement, especially in terms of the responsiveness of pharmacy officers.

Based on the characteristics of the respondents, the majority of patients are classified as elderly and have a lower secondary education level. This can affect their perception of the services received, especially if the information provided by the pharmacist is not conveyed in a simple and communicative manner (SURIANI, 2023). This study is in accordance with the

research of El Metwally et al., 2023 which shows that women have a relatively higher proportion of obesity and diabetes (58.9% vs 41.1%) and patients aged 40-60 years have an odd ratio of 2.58 (2.50-2.66) to develop diabetes compared to younger patients (El-Metwally et al., 2023). Gender differences are equally important in the development, awareness, presentation, diagnosis, and therapy, as well as in the prevention of lifestyle-related diseases in patients with diabetes mellitus. It is also true that awareness of the disease and the severity of its complications may not only depend on gender in a narrow sense, but also on the experience of men or women and, therefore, depend on the level of education, income and quality of services, as well as social and lifestyle support (Ciarambino et al., 2022)

In terms of physical facilities (tangibles), most respondents stated that the facilities available in pharmaceutical installations are quite adequate, such as the availability of drugs, cleanliness of space, and the pharmaceutical information system used. This is in line with the SERVQUAL theory by Parasuraman, Zeithaml, and Berry, where physical facilities are an important indicator in assessing the quality of service (Parasuraman et al., 1988). Financial health coverage is the patient's perception of the cost and coverage of the drugs provided by health insurance (Pribadi et al., 2023). The security of service delivery is influenced by the security guarantees provided by health workers in providing services, so that patients who use services feel satisfied and believe that all types of service cases are processed thoroughly, completed on time, right service, easy access and expedient (Fahriati et al., 2023).

Reliability is also an important factor that affects patient satisfaction. The majority of patients consider pharmaceutical services to be quite timely and in accordance with their needs. This is in line with the opinion (Trisnaningsih, 2021) which states that reliability in services is the main indicator in building a positive perception of patients towards health services.

However, in the responsiveness dimension, the study found that more than half of the respondents felt dissatisfied. The non-response of pharmacy officers to patient complaints and the length of the waiting time for drugs are the main factors of dissatisfaction. This long waiting time has also been highlighted in the Minister of Health of the Republic of Indonesia No. 72 of 2016, where it is stated that the waiting time for non-concocted drugs should not be more than 30 minutes (Apriani et al., 2023). This shows that there is a discrepancy between practices in the field and the minimum service standards that have been set.

In the assurance dimension, patients feel quite satisfied with the competence and ethics of pharmacy officers. Assurance of the quality of the drug and clear communication about side effects and how to use the drug are positive assessments for patients. These findings are also reinforced by research by Wells et al. which showed that information disclosure by pharmacists increases patient satisfaction (Wells et al., 2021).

Empathy is also an important factor in creating a good relationship between pharmacists and patients. Most patients feel that they are treated personally and given enough attention, both in terms of answers to questions and help in understanding medication information. This is important to build patient trust and comfort in pharmaceutical services (Christianity & Maya, 2022).

The results of the multivariate analysis showed that physical means and assurance were the dominant factors influencing patient satisfaction, with odds ratios (OR) of 2,240 and 2,767, respectively. These findings confirm that improvements in physical aspects and improved

quality assurance of services will significantly increase patient satisfaction with type 2 DM.

Overall, this study emphasizes the importance of improving the quality of pharmaceutical services, especially in terms of responsiveness and interpersonal communication. The main recommendation is to improve training for pharmacists in terms of effective communication and efficiency of the prescription service process, as well as improve the administrative system so that services can run faster and be responsive to patient needs.

## CONCLUSION

This study concludes that the quality of pharmaceutical services at Royal Prima Hospital Medan City has a significant effect on the satisfaction of patients with Type 2 Diabetes Mellitus. Most patients gave a good assessment of the dimensions of physical means, reliability, assurance, and empathy, while the dimensions of responsiveness were rated as poor. The results of the bivariate analysis showed that almost all dimensions of service quality had a significant relationship with patient satisfaction, with the empathy dimension being the most dominant. Further multivariate analysis showed that physical means and assurance were the most influential factors in patient satisfaction. These findings underscore the importance of improving physical infrastructure as well as strengthening a sense of security and trust in pharmacy officers. In addition, the responsiveness aspect needs to be the focus of improvement so that pharmaceutical services are faster, responsive, and oriented to the needs of patients as a whole.

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