Links Among Health Care Quality, Patients Satisfaction, and Loyalty: The Domino Effect

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Abstract
Patient satisfaction is the benchmark for the level of health service quality. The patient satisfaction regarding the perceived treatment at the hospital determines whether he will use the same hospital in the future. Muji Rahayu Surabaya Hospital experienced a reduction in inpatient visits by 1.01% in 2018. The decrease in inpatient visits is likely due to patient complaints. The purpose of the study was to analyze patient satisfaction towards the perceived health care quality and the effect on patient loyalty. This study used a cross-sectional approach. The sampling technique was done by using proportionate stratified random sampling with 116 respondents who received inpatient services at Muji Rahayu Surabaya Hospital. The statistical test used was descriptive analysis and regression. The detailed discussion showed that 14.4% of patients felt very satisfied regarding the physical environment quality. There are 20.7% of the patients felt very satisfied regarding the interaction quality of doctors. Moreover, 21.3% of the patients are satisfied regarding the interaction quality provided by nurses, and 16.8% of patients felt very satisfied with the outcome quality.
Meanwhile, overall patient loyalty was still low, which was as much as 13.2%. Regression analysis showed that patient satisfaction has a significant positive effect on patient loyalty (p=0.000). Patient satisfaction towards perceived health care quality has a strong effect on patient loyalty.

Keywords: patient satisfaction, patient loyalty, perceived health care quality, quality of health care.

1. Introduction

Patient satisfaction is the benchmark on the quality level of health services. Patients or the community see quality health services as a health service that can meet their needs and are organized in nature of polite, timely, responsive and able to solve complaints and prevent the development or spread of disease. The view of patients or the community is fundamental because satisfied patients will adhere to treatment and want to come back for treatment and become loyal consumers. Patients' satisfaction concerning their experience in getting treatment at the hospital will determine whether they will use the hospital again or not[1].

Muji Rahayu Surabaya Hospital (abbreviated as MRSH), is a private class D public hospital established in 1980 and owned by a foundation. The service performance of a hospital can be measured through various indicators. One indicator that can be used is the number of patients in one year. In 2018, MRSH experienced a decrease in inpatient visits by 1.01%. A reduction of inpatient visits is likely to occur because of complaints from the patient. During 2018, there were 32 complaints voiced by patients. Specific criticism was voiced from inpatient installation environment, amounted to 22 complaints and ten complaints about the service by human resources (HR) in MRSH. Claims are one of the indicators or symptoms and a sign of dissatisfaction of hospital services to patients, whether it is the service from the doctors, nurses or other hospital staff[2,3].

Satisfaction is the core concept of loyalty in which without comfort, there will be no loyalty, so feeling joy is a forming factor of loyal[4,5]. One of the factors that influence patient satisfaction is perceived health care quality. Perceived health care quality is the perception of service quality based on customer evaluation of three dimensions, namely interaction quality, physical environment quality,

and outcome quality. Based on the above background, this study aimed to analyze patient satisfaction with perceived health care quality and its effect on patient loyalty.

2. Material and methods

2.1 Research design, population, sample and variables

This study was an observational-analytic study with cross-sectional study design. The study population were patients who received inpatient services. The sampling technique was done by proportionate stratified random sampling. The researcher used this technique because the population were heterogeneous and proportional[6]. These 116 respondents were divided into VIP treatment class, Class 1, Class 2, and Class 3 of inpatient installations who have been allowed to go home by the doctor in charge or who are temporarily treated ≥two days at Muji RahayuSurabayaHospital. The independent variable measured was patient satisfaction with perceived health care quality consisted of physical environment quality satisfaction sub-variables, interaction quality between doctors and nurses, and outcome quality satisfaction. Meanwhile, the dependent variable measured as patient loyalty.

2.2. Instruments

The instrument used in this study was a self-administered questionnaire. Self-administered questionnaires are research aids containing some questions to answer or statements to choose which are filled in by the research respondents themselves. The survey was used to identify the variable of satisfaction with Perceived Health Care Quality consisting of interaction quality, physical environment quality, outcome quality, and patient loyalty as the sub-variables. Measurement of these variables was done using a closed questionnaire developed by the researcher. The survey in this study was tested for validity and reliability. The sample used to test the validity and reliability of the instrument were 30 respondents, so the value of r-Table used as a minimum Standard was 0.3610.

2.3 Research procedures and analysis

Data analysis in this study was carried out using statistical analysis in the form of univariate and multivariate statistical analysis. The report was carried out using computer software, i.e. Service Package of Social Science (SPSS). Univariate analysis was used to describe the frequency distribution and the proportion of satisfaction variable. It aims to perceived health care quality which consists of interaction quality, physical environment quality, and outcome quality. Meanwhile, a multivariate analysis was conducted to find out the results of the study of the influence test between the two variables, namely the satisfaction variable towards perceived health care quality with the patient loyalty variable. The influence test used was a simple linear regression test.

3. Results

Patient characteristics in this study included age, sex, education, occupation, inpatient class, and length of stay.

Table 1. Characteristics of Inpatient Customers in MRSH Inpatient Installation in 2019

No.	Characteristics	Total	
		n	%
1	**Respondents Status**		
	Patient	31	26.7
	Patient accompanied by the patient's family	85	73.3
	Total	**116**	**100**
2	**Age (year)**		
	1 months - ≤ 15	44	37.9
	16 - ≤ 30	25	21.6

No.	Characteristics	Total	
		n	%
	31 - ≤ 45	28	24.1
	46 - ≤ 60	11	9.5
	> 60	8	6.9
	Total	**116**	**100**
3	**Sex**		
	Male	57	49.1
	Female	59	50.9
	Total	**116**	**100**
4	**Education**		
	No school	18	15.5
	Elementary school	25	21.6
	Middle School	19	16.4
	High school	44	37.9
	Higher Education	10	8.6
	Total	**116**	**100**
5	**Occupation**		
	Not working	23	19.8
	Student	34	29.3
	Private	34	29.3
	Entrepreneur	3	2.6
	Civil Servants / Pensioners	5	4.3
	Housewife	17	14.7
	Total	**116**	**100**
6	**Length of treatment**		
	Two days	49	42.2
	Three days	46	39.7
	≥ Four days	21	18.1
	Total	**116**	**100**

From Table 1, it can be learned that the majority of patients were female aged between 1 month- 15 years. Based on the level of education of patients treated at MRSH, most of them had a high school education of 37.9%. The occupation of patients treated at MRSH was mostly private employees which amounted to 29%, and it was also known that the patients being treated were still students by 29%. Meanwhile, seen from the length of stay, most patients were treated for two days.

The satisfaction of perceived health care quality was measured through physical environment quality satisfaction, doctor interaction quality satisfaction, nurse interaction quality satisfaction and outcome quality satisfaction[6]. Patient satisfaction with physical environment quality was obtained from the assessment of ambient condition satisfaction, design satisfaction and social factor satisfaction.

Table 2. Distribution of Patient Satisfaction Assessment Results on Physical Environment Quality in MRSH Inpatient Installation in 2019

No.	Variables	Value/Attributes									
		(1) Very not satisfied		(2) Not Satisfied		(3) Satisfied		(4) Very Satisfied		Total	
		n	%	n	%	n	%	n	%	n	%
1	Perceived satisfaction on	4	3.4	13	11.2	82	70.7	17	14.7	116	100

No.	Variables	Value/Attributes									
		(1) Very not satisfied		(2) Not Satisfied		(3) Satisfied		(4) Very Satisfied		Total	
		n	%	n	%	n	%	n	%	n	%
	ambient conditions										
2	Perceived satisfaction on design	0	0	4	3.4	89	76.7	23	19.8	116	100
3	Perceived satisfaction on social factors	1	0.9	9	7.8	96	82.8	10	8.6	116	100
	Total	2	1.4	9	7.5	89	76.7	17	14.4	116	100

Based on Table 2, the results of the assessment of patient satisfaction on physical environment quality was still low (percentage of very satisfied answer <20%), which amounted to 14.4%, with all physical environment quality sub-variable also getting a low rating. The indicator that obtained the lowest rank on satisfaction with physical environment quality was ambient condition equals to 14.7%.Patient satisfaction on interaction quality of doctors was achieved from attitude satisfaction, behavioral satisfaction and doctor expertise satisfaction[3].

Table 3. Distribution of Patient Satisfaction Assessment Results for Interaction Quality of Doctors in MRSH Inpatient Facilities in 2019

No.	Variables	Value/Attributes									
		(1) Very not satisfied		(2) Not Satisfied		(3) Satisfied		(4) Very Satisfied		Total	
		n	%	n	%	n	%	n	%	n	%
1	Perceived satisfaction on the doctor's attitude	1	0.9	7	6.0	81	69.8	27	23.3	116	100
2	Perceived satisfaction on the doctor's behavior	1	0.9	5	4.3	89	76.7	21	18.1	116	100
3	Perceived satisfaction on the doctor's expertise	1	0.9	1	0.9	90	77.6	24	20.7	116	100
	Total	1	0.9	4	3.7	87	74.7	24	20.7	116	100

Based on Table 3, overall patient satisfaction with interaction quality of physicians was already high (percentage of answers very satisfied ≥20%). However, there was still one indicator with a low assessment of perceived satisfaction of physician behavior with a rate of 18.1%. Nurse interaction quality satisfaction was obtained from attitude satisfaction, behavior satisfaction and nurse expertise satisfaction.

Table 4. Distribution of Patient Satisfaction Assessment Results for Nurse Interaction Quality in MRSH Inpatient Installation in 2019

No.	Variables	Value									
		(1) Very not satisfied		(2) Not Satisfied		(3) Satisfied		(4) Very Satisfied		Total	
		n	%	n	%	n	%	n	%	n	%
1	Perceived satisfaction on the nurse's attitude	0	0	6	5.2	83	71.6	27	23.3	116	100
2	Perceived satisfaction on the nurse's behavior	0	0	2	1.7	90	77.6	24	20.7	116	100
3	Perceived satisfaction on	0	0	2	1.7	91	78.4	23	19.8	116	100

No.	Variables	(1) Very not satisfied		(2) Not Satisfied		(3) Satisfied		(4) Very Satisfied		Total	
		n	%	n	%	n	%	n	%	n	%
	the nurse's expertise										
	Total	0	0	3	2.9	88	75.9	25	21.3	116	100

In Table 4, the assessment result of patient satisfaction for nurse interaction quality was high overall (percentage of very satisfied answer ≥20%). However, there was still one indicator that obtained a low rating; on perceived satisfaction of nurse expertise with the percentage of strongly agree answers is by 19.8%.

Patient satisfaction regarding the outcome quality was obtained from comfort with the waiting time for doctors, waiting time for nurses, tangibles and valence.

Table 5. Distribution of Patient Satisfaction Assessment Results for Outcome Quality in MRSH Inpatient Installation in 2019

No.	Variables	(1) Very not satisfied		(2) Not Satisfied		(3) Satisfied		(4) Very Satisfied		Total	
		n	%	n	%	n	%	n	%	n	%
1	Perceived satisfaction on the doctor's waiting time	1	0.9	8	6.9	87	75	20	17.2	116	100
2	Perceived satisfaction on the nurse's waiting time	0	0	3	2.6	89	76.7	24	20.7	116	100
3	Perceived satisfaction on tangibles	0	0	2	1.7	97	83.6	17	14.7	116	100
4	Perceived satisfaction on valence	1	0.9	1	0.9	97	83.6	17	14.7	116	100
	Total	1	0.4	4	3.0	93	79.7	20	16.8	116	100

The results obtained in Table 5 show that patient satisfaction regarding the outcome quality was still low (percentage of delighted responses <20%). Most of the indicators were also rated as weak, only on the perceived satisfaction of the waiting time of nurses who received high rating with the percentage of strongly agreed on answers of 20.7%. The indicator that obtained the lowest rank with a rate of strongly agree of 14.7% was the perceived satisfaction of tangibles and the perceived satisfaction of valence.

Table 6. Distribution of Patient Loyalty Assessment Results in MRSH Inpatients in 2019

No	Statements	(1) Very not satisfied		(2) Not Satisfied		(3) Satisfied		(4) Very Satisfied		Total	
		n	%	n	%	n	%	n	%	n	%
1	I am willing to re-use services in the	0	0	5	4.3	93	80.2	18	15.5	116	100

Table 6. Distribution of Patient Loyalty Assessment Results in MRSH Inpatients in 2019

No	Statements	Loyalty									
		(1) Very not satisfied		(2) Not Satisfied		(3) Satisfied		(4) Very Satisfied		Total	
		n	%	n	%	n	%	n	%	n	%
	inpatient room of MujiRahayu Hospital in Surabaya if in the future I experience health problems (sick)										
2	I will not move to another hospital if in the future I experience health problems (sick)	0	0	5	4.3	96	82.8	15	12.9	116	100
3	I would recommend my family and friends to use inpatient services at MujiRahayu Hospital in Surabaya if they later experience health problems (sick) and require hospitalization	0	0	6	5.2	97	83.6	13	11.2	116	100
	Total	0	0	5	4.6	95	82.2	15	13.2	116	100

Based on Table 6, the overall patient loyalty results in the inpatient hospital MRSH was still low (percentage of strongly agree answer <20%) with all indicators also getting a low rating. The index that obtained the lowest percentage value lied in the statement, "I will recommend to my family and friends to use inpatient services at Muji Rahayu Surabaya Hospital if they later experience health problems (sick) and require hospitalization". This statement goes with the percentage of very agree on answer only 11.2%. Regression analysis test was conducted between patient satisfaction and patient loyalty variables.

Table 7. Test Results on the Influence of Patient Satisfaction on Patient Loyalty in the Inpatient Installation of MRSH 2019

Independent Variable	Dependent Variable	b	p-value	Note
Patient Satisfaction	Patient Loyalty	0.367	0.000	Significant

Table 7 shows that the p-value on the patient satisfaction variable had a value smaller than 0.05. A P-value lower than 0.05 and b = 0.367 means that there is a strong influence between patient satisfaction variables on patient loyalty. Patient satisfaction with a value of b = 0.367 means that reasonable patient satisfaction will increase patient adherence in the inpatient service of MRSH.

4. Discussion

In the sense of being able to meet the needs and expectations of customers, excellent quality service can increase customer satisfaction. Service quality which is equal or even higher than

expectations causes the customer to be satisfied or even very satisfied[7]. This statement is encouraged by Zeithaml, Bitner, Kotler and Armstrong that service quality has a direct impact on customer satisfaction[7,8]. Customer satisfaction is influenced by perceptions of service quality, service quality and based on customer needs and expectations.

Patient satisfaction towards the quality of hospital services as a whole will affect patient loyalty. Patients who are satisfied with the facilities at the hospital will show dedication, by using hospital services when they need to return one day, recommending others to use services at the hospital and defending the hospital if someone else denigrates services at the hospital[9]. Patient loyalty is the foundation of the hospital to survive, develop and win the very tight business competition today. Therefore, patient loyalty needs to be adequately managed by increasing patient satisfaction.

The overall quality of service in hospitals includes the variety of doctors and nurses services, general administrative services, environmental atmosphere, technical services, cleanliness and regulatory conditions affect patient loyalty[10,11]. In this study, patient loyalty was implemented in three relevant statements in the inpatient facility. The three points are the patient's willingness to re-use the MRSH inpatient, the patient's willingness to stay the current hospital due to a health problem, and the patient's readiness to recommend MRSH inpatient services.

The results of this study found evidence that patient satisfaction had a significant positive effect (b = 0.367, p = 0.000) on the loyalty of inpatients at Muji Rahayu Surabaya Hospital. The existence of patient satisfaction can be used to increase patient loyalty in inpatient settings. This reality supports the theory that loyal customers come from satisfied customers, as well as Kotler and Keller stated that highly happy customers tend to be loyal[7].

The results of this study are in line with the results of research conducted by Hasan & Putra, who found evidence that patient satisfaction has a positive and significant influence on patient loyalty[12–14]. Laksono also stated that there was a meaningful relationship between the level of satisfaction with the level of loyalty of Dedy Jaya hospital inpatients[9]. It can be interpreted that if patient satisfaction increases or is increased, then the patient's adherence will increase significantly, or the increase is significant (real). Thus, to improve patient loyalty, Muji Rahayu Surabaya Hospital should increase patient satisfaction with perceived health care quality. Increasing patient loyalty in hospitalization will have a positive impact on Muji Rahayu Surabaya Hospital, including an increase in admissions as indicated by increasing BOR values.

5. Limitation of the study

This study did not discuss the relationship between patient demographics with patient satisfaction and loyalty in MRSH, so the relationship and significance between patient demographics and patient satisfaction and reliability are unknown.

6. Conclusion

Patient satisfaction with perceived health care quality has a positive and significant impact on patient loyalty in the inpatient installation of MujiRahayu Hospital in Surabaya. Thus, Muji Rahayu Surabaya Hospital should improve patient satisfaction with perceived health care quality to increase patient adherence.

Acknowledgement

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