

## THE INFLUENCE OF SERVICE QUALITY ON BED OCCUPANCY RATE THROUGH PATIENT SATISFACTION IN BALUNG GENERAL HOSPITAL JEMBER REGENCY

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### ABSTRACT

**Background:** Bed Occupancy Rate (BOR) serves as an indicator of the hospital performance. The standard of BOR ideally was in 60-85%. BOR in Balung General Hospital over the past five years never reach the ideal standard by an average was 32,65%. When BOR has not ideal so the quality of inpatient services is predicted has not yet been optimized. The service quality is predicted has an effect on patient satisfaction and patient satisfaction is predicted has an effect on BOR. This study aim to analyze and to know whether there is indirect effect of service quality on BOR through patient satisfaction. **Materials and Methods:** The instrument of service quality use ServQual questionnaire and the instrument of patient satisfaction refer to PERMENPANRB 14/2017. This study is a quantitative study. The samples are 250 respondents and be elected by combining quota and accidental sampling techniques. Data was analyzed using path analysis with Lisrel 8.70. **Result:** This study shows that service quality and patient satisfaction have had positive and direct effect on BOR and there are significant indirect effect of service quality on BOR through patient satisfaction. **Conclusion:** The each direct effects of service quality on BOR, service quality on patient satisfaction, and patient satisfaction on BOR are greater than the indirect effect itself. Balung General Hospital is expected to maintain and improve the quality of inpatient services so patient satisfaction and BOR will rise as well.

**KEYWORDS:** Service quality, patient satisfaction, Bed Occupancy Rate.

### 1.0 INTRODUCTION

Indicators are required to assess the quality of hospital services. Some indicators used to assess the quality level of hospital services include BOR.<sup>[11]</sup> BOR is used to assess the scope of inpatient services.<sup>[15]</sup> Sumargo (2016) says that the non-financial benchmark for actual hospitalization is used to measure the utilization of bed efficiency with BOR indicators.<sup>[16]</sup> Putri *et al.* (2017) mentions that the BOR data can be used to determine the utilization rate of service facilities, the quality of hospital services, and the level of efficiency of hospital services.<sup>[11]</sup> BOR is the percentage of utilization or use of bed in certain units.<sup>[13]</sup> The ideal standard of BOR is 60-85%. That is, an inpatient service unit in the hospital can be said to have been well utilized by the community when the number of existing beds reached 60-85%.<sup>[12]</sup>

There are 12 hospitals scattered in Jember regency. The lowest average BOR achievement of all hospitals in Jember district over the last five years is Balung General

Hospital's achievement of 32.65%. The lowest Balung General Hospital's BOR achievement in the year 2015 was 27.75% and the highest in 2013 which was 42.3%.<sup>[3]</sup> It shows that the BOR achievement of the Balung General Hospital for the last five years has never touched the ideal figure. That is, the use of the bed in Balung General Hospital still not maximum.

If the achievement of BOR is not yet ideal, the quality of service in hospitalization is not maximized. Quality of service related to inpatient occupancy or BOR achievement.<sup>[10]</sup> Service quality affects patient satisfaction. Meaning better quality of service, patient satisfaction is also increasing.<sup>[17]</sup> Patient satisfaction is associated with the achievement of BOR in the hospital. Increased patient satisfaction closely related with increased BOR achievement.<sup>[8]</sup> Therefore, this study aims to analyse the influence of service quality on BOR achievement through patient satisfaction in Balung General Hospital Jember regency.

2.0 MATERIALS AND METHODS

2.1 Research Design

This study is an analytical study with cross sectional design. The population is all inpatient in Balung General Hospital Jember Regency during the study period and the number of samples determined by 250 respondents. Sampling techniques by combining quota and accidental sampling techniques.

2.2 Research Variables

There are three variables in this study. The independent variable is the service quality, the moderate variable is the patient satisfaction, and the dependent variable is the BOR achievement. The concept explains that the service quality is predicted to directly affect the achievement of BOR, the service quality is predicted to directly affect the patient satisfaction, the patient satisfaction is predicted directly affect the achievement of BOR, and the service quality is predicted to indirectly affect the BOR achievement through the patient satisfaction.

2.3 Research Data and Instruments

The BOR achievement data is obtained from secondary data from medical records unit. The primary data in this study consisted of the service quality and the patient satisfaction through interviews using instruments. The service quality instruments using ServQual consisting of five components: *Tangible, Empathy, Reliability, Responsiveness, Assurance*. The patient satisfaction instrument refers to PERMENPANRB 14/2017 about the guidelines for the preparation of community satisfaction survey on unit public service consisting of nine components namely (a) Requirements, (b) System, mechanism, and procedure, (c) Completion time, (d) Cost/tariff, (e) Type of service product specification, (f) Competency implementation, (g) Implementing conduct, (h) Complaint and suggestion handling and (i) Facilities and infrastructure.

2.4 Data Analysis

The service quality, the patient satisfaction, and the BOR achievement data were analyzed descriptively to determine the frequency distribution. Data analysis using. Data analysis using the path analysis method with software Lisrel 8.70. A path coefficient is stated to have a significant effect if it has a *T-value* of > 1.96.<sup>[4]</sup> The results is presented in table form.

3.0 RESULT

3.1 Descriptive

The quality of inpatient service in Balung General Hospital is divided into three categories i.e. poor service quality, adequate service quality, and good service quality. The patient satisfaction in Balung General Hospital is divided into three categories, i.e. not satisfied, satisfied, and very satisfied. Based on the data obtained, the service quality and the patient satisfaction frequency distribution can be seen in the following Table 1:

Table 1: The service quality and the patient satisfaction frequency distribution.

Variable	Categories	N	%
Service quality	Poor	40	16
	Adequate	108	43
	Good	102	41
Patient satisfaction	Not satisfied	76	32
	Satisfied	63	26
	Very satisfied	111	42

The Table 1 shows the frequency of the variables categories. Those results shows that most of the respondents mentioned that the service quality in Balung General Hospital is adequate to good enough. The most of the respondents felt very satisfied with the quality of inpatient service in Balung General Hospital.

BOR achievement data in this study is BOR data in the first semester of 2019. The average frequency distribution of BOR achievement in Balung General Hospital can be seen in the following Table 2:

Table 2: The average frequency distribution of BOR achievement in Balung General Hospital.

Number	Room	Average (%)	Caption
1	Anak	25,823384	*
2	Perinatologi	231,35147	***
3	Nifas	164,68402	***
4	Obstetri	102,95379	***
5	Gyneкологи	19,665899	*
6	Kelas I/ Anggrek	35,31426	*
7	Interna/ Melati	91,49015	***
8	Bedah/ Mawar	68,973246	**
9	GMC	21,851318	*
10	ICU	21,02509	*

Captions:

*	Below the ideal number (<60%)
**	The Ideal number (60-85%)
***	Above the ideal number (>85%)

The Table 2 shows that of the ten inpatient rooms at Balung General Hospital, only one room whose percentage of BOR is at the ideal number is the Mawar room. There are some rooms whose percentages are far above the ideal number, such as the Perinatology room with a BOR percentage of 231.35%. This is because in one day there can be 2-3 childbirth and newborns occupy the bed not until one day. So in one day, a single bed can be used by some patients. Therefore, the percentage of BOR in Perinatology room is very far above the ideal number. There are also some rooms that percentage of BOR under the ideal number, such as GMC room. GMC room is a VIP room that patients only from the type of general patient payment. Given the characteristics of the respondents in Balung General Hospital most of the lower middle class, it is normal that only a few patients use GMC room.

### 3.2 Statistical Analysis

A path coefficient is stated to have a significant effect if it has a *T-value* of  $> 1.96$ .<sup>[4]</sup> The coefficient value and influence significance are presented in Table 3 below:

**Table 3: The coefficient value and influence significance between variables.**

Variables	Estimates value	Standardized value	T-value	Caption
Service quality on BOR	0,06	0,46	7,78	Significant
Service quality on patient satisfaction	0,38	0,41	7,11	Significant
Patient satisfaction on BOR	0,02	0,16	2,71	Significant

The service quality and patient satisfaction directly affects on the achievement of BOR determined by 0.46 and 0.16. Therefore, it can be said that the service quality affects indirectly to the achievement of BOR through patient satisfaction.<sup>[18]</sup>

The structural equations is produced as follows:  
 $BOR = 0.022 * Patient\ Satisfaction + 0.058 * Service\ Quality$ , Errorvar = 2.13,  $R^2 = 0.29$

The structural equations explains that the service quality and patient satisfaction positively affect on the achievement of BOR. That is, the better of service quality and the more satisfied the patient is, then the achievement of BOR will increase. Together, the service quality and patient satisfaction is able to explain the achievement of BOR by 29%, while the rest is explained by other variables.<sup>[18]</sup>

In Standardized Indirect Effects of X on Y, the service quality indirectly affects the achievement of BOR through patient satisfaction as 0.07. The value is derived from the multiplication between the path coefficient of service quality to patient satisfaction (amounting to 0.41) and the path coefficient of patient satisfaction to the achievement of BOR (0.16), namely  $0.41 \times 0.16 = 0.07$ .<sup>[18]</sup>

## 4.0 DISCUSSION

### 4.1 The Service Quality vs The Achievement of BOR

The results of this study have shown that the service quality has a positive effect on achievement of BOR. This means better quality of service then the achievement of BOR will increase. Akbar (2019) mentions that the quality of service affects the achievement of BOR.<sup>[11]</sup> Sektiyaningsih *et al.* (2019) mentioned that the quality of service has positive effect on patient satisfaction and hospital image. Patient satisfaction and the image of the hospital positively affect patient loyalty.<sup>[14]</sup> Loyal patients will reutilize the services provided by the hospital. Reutilization of inpatient services will increase the achievement of BOR.

### 4.2 The Service Quality vs The Patient Satisfaction

The results of this study have shown that the service quality has a positive effect on patient satisfaction. That means better quality of service then the patient satisfaction level will be increased. Damopolii *et al.*

(2018) mentions that the quality of healthcare services is related to the satisfaction of inpatients.<sup>[21]</sup> Quality healthcare is a necessity and demands for users of healthcare services and if successfully fulfilled it will be able to create a sense of satisfaction.

### 4.3 The Service Quality vs The Achievement of BOR

The results of this study have shown that patient satisfaction has a positive effect on the achievement of BOR. That means the higher the level of patient satisfaction then the achievement of BOR will be increased. Meidina (2018) mentions that patient satisfaction has an effect on the achievement of BOR in hospital.<sup>[8]</sup> The higher the patient satisfaction rate, the higher the hospital BOR number. Mulyani (2014) also stated that the higher the patient's satisfaction rate then the higher the patient's loyalty.<sup>[9]</sup> This means that more and more loyal patients are using hospitalization services provided by the hospital, then the patient's return visit to the hospital will increase. The patient's return number can be used as input data for hospital BOR achievement.

### 4.4 The Service Quality vs The Achievement of BOR through The Patient Satisfaction

A study aimed at knowing the indirect effect of service quality on BOR achievement through patient satisfaction using path analysis is hard to found. However, the results of this study have shown that there is an indirect effect of the service quality on BOR achievement through patient satisfaction. There are significant indirect effect, but not great. Service quality and patient satisfaction have a positive effect on the achievement of BOR. BOR achievement increases with the improvement of service quality and the achievement of patient satisfaction.

The majority of respondents argue that the quality of service in Balung General Hospital is good enough. The service quality components that include *Reliability*, *Assurance*, and *Empathy* components have been assessed quite well by respondents. However, the *Tangible* and *Responsiveness* components are rated still less good. On components *Tangible* the hygiene and ignition items of the inpatient room as well as the availability of clear signage are still assessed less well. In the component *Responsiveness* item, the officers in providing the service is still less good and the waiting time of the patient to get the service is assessed long enough.

The majority of respondents also felt satisfied or even very satisfied with the inpatient service in Balung General Hospital. The patient satisfaction component which includes the *Requirement, Procedure, Completion time, Cost, Product specification, Implementing competence, and Implementing behavior* can be satisfied with the respondent. However, the components of *Complaints and suggestion handling and Facilities and infrastructure* are still not able to provide maximum satisfaction in respondents. In the *Complaints and suggestion handling* availability of complaints and suggestion services items are still inadequate as well as the follow-up of patient complaints by officers are also still poor. In the component of *Facilities and infrastructure* hygiene and the comfort items of the inpatient room and the toilet still not quite clean and comfortable.

Lim *et al.* (2018) argues that patient satisfaction rates and patient loyalty increase with improved service quality.<sup>[7]</sup> Hermawan (2018) found that the quality of hospital service affects customer value. Then the value of the customer affects the patient's satisfaction and the patient satisfaction on the patient's decision to reuse hospital health services.<sup>[5]</sup> Juhana *et al.* (2015) mention that good quality of service also has several advantages, one of which is a harmonious relationship between service providers and service receivers. The good relationship can be used as the foundation or conviction of the patient in choosing the hospital so that the patient becomes loyal.<sup>[6]</sup> Patients who are loyal to the hospital will improve the performance of the hospital, both on the basis of BOR or in financial figures.

Some of these things can be used as the assumption that if the quality of service is good then it will impact the patient satisfaction rating and increased satisfaction of the patient will impact on improving the achievement of BOR. Therefore, the service provider Healthcare services such as hospitals are required to always maintain and improve the quality of services provided in order for patients to be satisfied. Patient satisfaction can be a positive perception to help market the hospital so that the bad image of the hospital can be reduced. To change the bad image. In the end, if the quality of service is maximum and the patient is satisfied then BOR achievement will increase.

## 5.0 CONCLUSION AND RECOMMENDATION

The results of this study have proven that there are indirect effect of service quality on BOR through patient satisfaction. The hospital have to provide a service complaints and suggestions services from patient to reach an optimum patient satisfaction. The hospital need to add number of beds remember there are some rooms have BOR level above the ideal so that it can be said that the density of patient had been high.

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