



Research Paper

## Factors Affecting the Quality of Hospital Service for Inpatients

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**ABSTRACT:** This study aims to determine the factors that affect the quality of hospital services for inpatients. The study was conducted in several regional general hospitals in the city of Jakarta, Indonesia, while the respondents were inpatients at the hospitals concerned. Data was collected by using convenience sampling technique. Methods of data analysis was conducted using Factor analysis. The results showed the formation of three factors from the fifteen variables being considered, and gave a total cumulative variance value of 57.603%. The three factors are referred to as: (1) Health Personnel Quality factor which contains seven variables, (2) Service Operational Standards factor which contains four variables and (3) Infrastructure factor which contains four variables.

**KEYWORDS:** service quality, hospital inpatient.

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### I. INTRODUCTION

In recent years the government has given serious attention to strengthening the health industry, especially after the world was hit by the COVID-19 pandemic. Among them are efforts to increase the quantity and quality in the hospital industry. Actually, growth in the number of hospitals was quite adequate prior to the pandemic. Since 2012 there has been an average growth of 5.2% in the number of hospitals in Indonesia. Data shows that in April 2018, there were 2,820 hospitals consisting of 1,016 government-owned hospitals and 1,804 owned by the private sector (Trisnantoro et al, 2018). Meanwhile, the number of hospitals in DKI province also increased from 159 in 2014, to 187 hospitals in 2017 (DKI Profile, 2017). It is understandable that as the nation's capital, of course, the need for quality health services also increases, along with the increase in population and people's purchasing power. In addition to the growth in quantity of hospitals, the community as consumers also expects an increase in quality of services from the hospitals themselves.

In general, the service quality factor has been widely recognized as the main determinant for the success of a company. Improving service quality will have an impact on increasing customer satisfaction which in turn will affect retention, repurchase, loyalty, and ultimately affect market share and profitability (Tjiptono, 2019). This competitive phenomenon also occurs in the hospital industry, which has recently become increasingly competitive. As an organization that sells health services, hospitals are required to continuously improve their quality, which is relatively difficult to standardize and communicate. Unlike the measure of product quality, the quality of service product is sometimes measured subjectively and is associated with customer expectations. The variety of customer profiles, in this case, patients and their families, is often necessary to conduct research to identify what factors influence the high and low quality of hospital services in a given location and period of time.

The organization of hospitals has evolved according to the needs of the market. Based on the management, it can be distinguished into general hospitals managed by the government or non-profit legal entities, as well as private hospitals managed by legal entities for commercial purposes. The provided health

services generally include medical services, medical support, medical rehabilitation, and care services. All these health services are carried out through emergency units, outpatient units, and inpatient units (Herlambang, 2016). Jakarta as the nation's capital has several government hospitals, consisting of 3 central general hospitals (RSUP) and 25 regional general hospitals (RSUD) (<http://sirs.yankes.kemkes.go.id/>). In general, the quality of services provided by RSUP is adequate. This is evidenced from the Public Satisfaction Index survey report issued by the Indonesian Ministry of Health in 2017, which states that generally people are satisfied with the quality of services provided by RSUP. A different impression occurs at the RSUD, although lately it must be admitted that there has been a lot of improvement in the quality of the services provided. The number of general hospitals is relatively more dominant than RSUPs, so it can be considered as the spearhead of government hospitals that have direct contact with the majority of the people of Jakarta. The implication is that the quality of hospital services will be a representation of the health services provided by the government. Based on these considerations, this study conducted a survey on regional general hospitals in Jakarta which are managed by the local government. As research subjects, inpatients who are treated at several regional general hospitals in Jakarta will be selected. For inpatients, the quality of service can be experienced from the registration process, medical actions in the emergency department, cleanliness and comfort of inpatient rooms, attitudes, and behavior of medical and paramedical personnel, to the quality of food provided to patients (Setiawan, 2011). The purpose of this study is to identify the factors that influence the quality of care received by inpatients at regional general hospitals in the province of DKI Jakarta, Indonesia.

## **II. LITERATURE REVIEW**

The quality of service products is relatively more difficult to define and measure than the quality of goods. The size of service quality is often determined by consumers so that it is somewhat subjective. The definition of service quality focuses more on efforts to fulfill customer needs and desires as well as the accuracy of delivery to balance customer expectations (Tjiptono, 2019). Wyckof (in Lovelock (1988)) defined service quality as the level of excellence expected and control over these advantages to meet customer desires. According to Parasuraman et al (1985) there are two main factors that affect service quality, namely expected service and perceived service. When the service received (perceived service) is as expected, the quality of service is perceived as good and satisfactory. Goel & Yang (2015, in Asnawi et al., (2019)) defined service quality as "a function of the difference between service expected and customer's perceptions of the actual service delivered". Rust et al., (1996) distinguished customer expectations into three types, namely: (1) will expectation, in the form of a performance level that is expected to be received by consumers based on all the information they know, (2) should expectation, in the form of a performance level that is considered appropriate consumers, and (3) ideal expectations, in the form of optimum or best performance levels that are expected to be accepted by consumers. Meanwhile, Gronroos (1990) tried to describe the service quality perceived by customers based on two main dimensions, namely: (a) technical quality (outcome dimension) related to service outputs perceived by customers, and (b) functional quality (process-related dimension) related to the quality of the delivery of the services concerned.

Service quality is often considered as a strategic weapon in the service industry, as well as a source of competitive advantage. However, due to its intangibility and heterogeneity, service products become difficult to measure, difficult to standardize, and even difficult to communicate (Mudie et al, 2006). Service quality should start from customer needs and end with customer perceptions. As the party who buys and consumes services, it is the customer who can judge the level of service quality of a company. In the healthcare industry, especially in hospital service products, service quality will be assessed both from the outcome and process dimensions. Here, quality is multidimensional, namely according to service users (patients and families) and according to health service providers (doctors, nurses, and other officers). Actually the services provided by the hospital can be divided into medical and non-medical aspects. Along with its supporting elements, the medical aspect consists of human resources both in quantity and quality which are supported by various equipment for the purposes of diagnosis and treatment of diseases. While the non-medical aspects consist of information services, administration, finance, nutrition, pharmacy, cleanliness and safety of the hospital environment. In other words, it must be realized that the patient's recovery is not only determined by the drugs being given, but is also influenced by the way the service is provided by health workers in the form of attitudes, skills, and knowledge (Gonzales (2007, in Zulfahiqi (2014))).

So far, the service quality model popularly and widely used as a reference in related researches is the Servqual model (stands for 'service quality'), which was developed by Parasuraman et al (1985). In this model, service quality is defined as a global assessment or attitude regarding the superiority of a service. Parasuraman et al., (1985, in Tjiptono (2019)) developed 3 conceptual foundations, namely: (a) the quality of services is more difficult to evaluate by consumers than the quality of goods, (b) perceptions of service quality are the result of comparisons between customer expectations and actual service performance, and (c) quality evaluation is not

only carried out on service results, but also includes evaluation of the service delivery process. Initially, the Servqual model measures service quality based on 10 (ten) main dimensions, namely: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding/knowing, and tangibles. However, in a subsequent study, Parasuraman et al., (1988, in Tjiptono (2019)) summarized the dimensions of service quality into 5 (five) main dimensions, i.e.: (1) Reliability; namely the ability to provide the promised service swiftly, accurately and satisfactorily, (2) Responsiveness; namely the desire of the staff to help customers and provide responsive service, (3) Assurance; namely the ability that includes knowledge, competence, courtesy, and trustworthiness of the staffs, and is free from the dangers of risk and doubt, (4) Empathy; namely the ability to establish relationships, good communication, personal attention, and understanding of customer needs, and (5) Tangibles; is a dimension related to physical facilities, equipment, employees, and means of communication. Indeed, there are several weaknesses of the Servqual model, which then encourage various alternative models to emerge and adapted to the characteristics of the related industry.

Actually the concept of service quality has experienced rapid development since the past four decades. Various opinions have emerged, including Gronroos (1984), who argued that there are 2 (two) dimensions of service quality, namely technical and functional aspects. The technical aspect relates to the quality of equipment, duty timings, prescription etc., while the functional aspect relates to routine operations including interaction with customers. Furthermore, in subsequent studies, Gronroos (1990) suggested the following 6 (six) service quality criteria: professionalism and skills, attitudes and behaviors, accessibility and flexibility, reliability and trustworthiness, recovery, reputation, and credibility. Moreover, Zineldin (2006) developed the previous model by introducing 5 (five) dimensions of service quality that can also be used in health services, as follows: quality of process, object, infrastructure, interaction, and atmosphere. Meanwhile, Buyukozkan et al., (2011) described healthcare service quality on 6 (six) dimensions, namely: tangibles, responsiveness, reliability, assurance, empathy and professionalism. In their research, Evans and Lindsay (2012, in Afridi et al., (2018)), introduced eight dimensions of service quality, namely: time, timeliness, completeness, courtesy, consistency, accessibility, accuracy and responsiveness. On the other hand, research by Fatima et al., (2017) described healthcare service quality on the following 5 (five) dimensions: physical environment, customer-friendly environment, responsiveness, communication, privacy and safety. Nurdin (2019) added a price component to represent the dimensions of the quality of public services, completing the dimensions in the Servqual model into 6 (six), namely: service facilities, reliability, responsiveness, assurance, price, and empathy.

This study employs the concept of service quality which is represented through several dimensions, and is a combination of the dimensions used in the research of Parasuraman et al., (1985, in Tjiptono (2019)), Zineldin (2006), Evans & Lindsay (2012, in Afridi et al., (2018)), Buyukozkan et al., (2011), Fatima et al., (2017), and Nurdin (2019).

### **III. RESEARCH METHODS**

The purpose of the study is to determine the factors that affect the quality of hospital services. There are many concepts of service quality that have been developed. In this study, a quite relevant combination of several dimensions of service quality is used as considered variable. These various variables will be analyzed using Factor analysis to reduce a number of independent variables in order to obtain several dominant factors that reflect the original variables.

This study will consider several variables that represent various dimensions of service quality, namely: (a) reliability, competence, courtesy, communication, credibility, security, understanding, and tangibles (Parasuraman et al., (1985), in Tjiptono (2019)); (b) completeness, accuracy, and consistency (Evans & Lindsay (2012), in Afridi et al., (2018)); (c) privacy (Fatima et al., (2017)); (d) professionalism (Buyukozkan et al., (2011)); (e) price (Nurdin (2019)); (f) infrastructure (Zineldin (2006)). A questionnaire will be developed from these 15 variables to obtain primary data. Before collecting the data, the research instrument will be tested, and then the factor analysis process will be carried out.

This study is limited to an analysis of the quality of inpatient services at local government-owned general hospitals called RSUD, in the province of DKI Jakarta. Currently, there are 25 hospitals in Jakarta, 6 in Central Jakarta, 4 in West Jakarta, 6 in South Jakarta, 5 in East Jakarta, and 4 in North Jakarta. As the sample of respondents, inpatients were taken from three class A and B regional general hospitals representing Central Jakarta, East Jakarta, and North Jakarta. Meanwhile, the number of inpatients taken as respondents were 100 people and tested by using convenience sampling method.

### **IV. RESEARCH RESULTS AND DISCUSSION**

This study used a sample consisting of 69 percent female respondents and 31 percent male respondents. 58 percent of the respondents were under 25 years old, and only 17 percent of them aged over 51 years old.

From the educational background, 69 percent of them only had high school/vocational education. Meanwhile, 59 percent of respondents did not or had not worked while the rest were equally divided between private employees, entrepreneurs, and housewives. Other data that are considered important are the duration of hospitalization. 61 percent of them had been treated for 4-6 days, 8 percent for 7-15 days, 5 percent over 15 days, and the rest 26 percent had been treated for less than 3 days.

Prior to the data analysis process, the research instrument was first tested which the results showed the fulfillment of the validity and reliability requirements. To identify the factors that affect the quality of service for inpatients in hospitals, the factor analysis method was used. First, the correlation and feasibility test of a variable was carried out using the Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA). The test results shows that the KMO value is 0.867 with a significance of 0.000, therefore the process can be continued to the next stage. The MSA test also shows the value of each variable is above 0.5, meaning that the variable can still be predicted and further analyzed.

**Table 1. Extraction Results**

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.415	42.769	42.769	6.415	42.769	42.769	3.727	24.848	24.848
2	1.202	8.014	50.784	1.202	8.014	50.784	2.519	16.790	41.639
3	1.023	6.819	57.603	1.023	6.819	57.603	2.395	15.964	57.603
4	.957	6.378	63.980						
5	.851	5.674	69.654						
6	.730	4.864	74.519						
7	.662	4.416	78.935						
8	.628	4.185	83.120						
9	.540	3.603	86.723						
10	.467	3.116	89.840						
11	.411	2.737	92.576						
12	.363	2.418	94.995						
13	.319	2.128	97.122						
14	.269	1.796	98.918						
15	.162	1.082	100.000						

The extraction process was carried out using the Principal Components Analysis (PCA) method, which succeeded in extracting 15 variables into 3 factors with an eigenvalue above 1. The total cumulative value of variance was 57.603%, meaning that the three factors were able to explain 57.603% of the total factor variance of factors that affect the quality of care for inpatients at hospitals in Jakarta. To obtain maximum result, a rotation process was carried out, and the obtained Rotated Component Matrix determines the correlation of each variable to the factors formed. By choosing the correlation value of the largest component, it is obtained that: (a) The first factor is formed by 7 variables with a variance of 24.848%, (b) The second factor is formed by 4 variables with a variance of 16.790%, and (c) The third factor is formed by 4 variables with a variance of 15.964%.

The first factor contains seven variables, namely: X2 (professionalism: 'health workers are ready and able to answer any questions related to service procedures'), X3 (competence: 'knowledgeable'), X4 (courtesy: 'always ready to help patients'), X5 (communication: 'there is detailed communication before each treatment'), X7 (security: 'safe and comfortable'), X8 (understanding: 'understanding the needs of each patient'), X10 (completeness: 'every process is explained and done completely'). In general, the services provided by the hospital can be divided into medical and non-medical aspects. The medical aspect consists of human resources, both in quantity and quality, supported by elements of medical equipment for diagnosis purposes and treatment of diseases. Meanwhile, non-medical aspects consist of information services, administration, finance, nutrition, pharmacies, cleanliness and safety of the hospital environment. It must be admitted that the patient's recovery is not only determined by the drugs given, but is also influenced by the way the service is provided by health workers in the form of attitudes, skills, and knowledge (Gonzales (2007, in Zulhafiqi (2014)). When viewed from the elements of the first factor, then almost all elements are related to the ability of health workers (doctors, nurses, and other officers) in the form of attitudes, skills, and knowledge they have. Referring to the servqual model, the elements of the first factor are closer with the dimensions of Assurance and Empathy (Parasuraman et al., (1988, in Tjiptono (2019)). The first factor can be named as the Health Personnel Quality

factor. This factor is able to explain the diversity of variance = 24.848%. When viewed from the loading value, the most influential variable in the first factor is the courtesy variable with a correlation value of 0.833. Here the patient chooses the attitude of the health officer as the most important element, where they are always ready to help the patient and the patient's family, so as to make them feel comfortable during their stay at the hospital concerned.

The second factor is formed by 4 variables, namely: X11 (accuracy: 'careful in documenting and storing patient data'), X12 (privacy: 'respecting patient privacy'), X13 (reliability: 'performing every service process precisely and correctly'), X14 (price: 'carefully calculated care costs'). Several elements here are closely related to hospital policy as an organization that houses health workers. Accuracy is associated with accuracy in documenting patient data. Privacy and price are also the standard service policies issued by the hospital. Thus, this second factor can be called as the Service Operational Standard factor. The second factor is able to explain the diversity of variance, which is = 16.790%. Based on the loading value, the variable that has the most influence on this factor is the price variable. It should be realized that inpatients of a general hospital are people of middle to lower economic level who are quite sensitive to health costs. However, the collaboration between the RSUD and BPJS (Social Security Administering Agency) will help meet the patient's health costs.

The third factor is formed by 4 variables, namely: X1 (consistency: 'what is delivered according to what is executed'), X6 (credibility: 'there is trust in the reputation of the hospital'), X9 (tangibles: 'cleanliness of every inpatient room'), X15 (infrastructure: 'adequate infrastructures'). The elements forming the third factor are filled by aspects of infrastructures and reputation. In the servqual model, these elements are related to the tangibles dimension. For the RSUD itself, the above aspects are a classic challenge, especially when compared to competitors, namely central hospitals and private hospitals. This third factor can be called the Infrastructure factor. This factor is able to explain the diversity of variance, which is = 15.964%. The most influential variable is the infrastructure variable, with a loading factor of 0.763, which relates to the physical facilities in the hospital.

## V. CONCLUSION

This study aims to determine the factors that affect the quality of care for inpatients at hospitals in Jakarta. To answer the research objectives, the concept of service quality was employed, which was represented through various dimensions from the results of several previous studies. As a sample, the respondents are inpatients surveyed from several regional general hospitals in Jakarta. Based on the sample data taken, it can be concluded that there are three factors that affect the quality of service. The first factor is called Health Personnel Quality factor which represents the attitudes, skills and knowledge of health workers (doctors, nurses, other health workers). The first factor contains seven variables, namely: professionalism, competence, courtesy, communication, security, understanding, and the completeness. The second factor is called Service Operational Standards factor, which represents the hospital's policies related to service standards and procedures from admission to discharge of patients, including the policy on treatment and care costs. The second factor contains four variables, namely: accuracy, privacy, reliability, and price. Meanwhile, the third factor is called Infrastructure factor which is represented by tangible aspects in the form of physical appearance of the building, equipment, and even the appearance of hospital staff. This factor contains four variables, namely: consistency, credibility, tangibles, and infrastructure.

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