

**SERVICE QUALITY OF TEACHING HOSPITAL  
FROM PATIENT PERSPECTIVE  
A SCOPING REVIEW**

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**ABSTRACT**

Teaching hospitals must have high standards in terms of service, and latest technology, while still be able to accommodate a wide range of interests in terms of education, teaching and research. Teaching hospitals have long been known as hospitals with tiered, comprehensive, technologically advanced-business, but requiring longer time for delivering services. Patients today are more informed and educated about the quality of health care than they were in the past. This study aimed to identify and evaluate published research on how patient perceive to service quality in teaching hospital in various countries. ProQuest and EBSCOhost databases were used for article search and PRISMA flow diagram was used to perform the articles selection. The search resulted 515 articles selected. Title and abstract screening removed selected articles, leaving 19 assessed for eligibility. Articles relevant to the study question and meet the criteria were 10 articles. Most of the studies were conducted in developing countries. Results of the study showed there is a strong relationship between quality of service provided with level of satisfaction reported by patients. most studies agreed physician variable to be the most significant determinant to patient's perceived quality of care, while physical environment and administrative services also supported positive response. The findings provide healthcare managers as well as academic physicians, and university leader with valuable information regarding the variables associated with patient satisfaction to service care of teaching hospital. This knowledge equips them with the ability to better address and fulfill the needs and preferences of patients.

Keywords: service quality, patient perspective, teaching hospital

**1. Introduction**

The Law on Medical Education No. 20 of 2013 mandates that higher education institutions which provide medical education must cooperate with teaching hospitals as a means of learning. Designated as a teaching hospital, a hospital must have competent teaching staff, have high standards of medical

technology, have research programs, and other programs stipulated by law. Other, a teaching hospital must have high standards in terms of service, technology, and up-to-date, while being able to accommodate a wide range of interests in terms of education, teaching, and research.

As an institution whose main goal is to provide health services to patients

for the treatment of disease and prevention of disability, the hospital cannot be separated from being a commodity business unit whose one goal is to generate profit (1) Especially in an era of increasingly fierce competition, a fairly uncertain economic climate, and changes in various financing patterns in the era of national health insurance (JKN), hospitals are required to carry out various efficiencies and cost controls on various fronts in order to survive or even excel. On the other hand, the status as a teaching hospital which requires the hospital to accommodate various learning processes at various levels, the application of the highest technology as a center of excellence, and even if it is possible to apply new findings or those that are still being tested in the medical world, is certainly a problem. separate burden for hospital operations.

Patients today are more informed and more educated about the quality of health care than they were in the past. Due to the increase in information and knowledge they choose the hospital where they seek treatment after carrying out a comparison based on the standards they form for their respective needs. Therefore, the availability of information is an important factor for patients in assessing health services and health facilities. Patients often have more confidence in the

patient's previous experience of a health service. And it is undeniable that patient satisfaction is an important factor as the basis for patients choosing health services (2)

Not many research reports in Indonesia have reviewed the quality of health services in teaching hospitals and their relation to patient satisfaction. Increasingly smart health consumers demand that stakeholders and management in teaching hospitals must also think about aspects of service quality from the patient's point of view and patient satisfaction, which in the end is expected to increase patient obedience, as well as positive patient behavior towards teaching hospitals.

For this reason, researchers feel the need to look for comparisons of how patients perceive the quality of service in various teaching hospitals in various places in relation to patient satisfaction, and how this then influences the utilization of health services in teaching hospitals and patient behavior towards these services.

## **2. Methods**

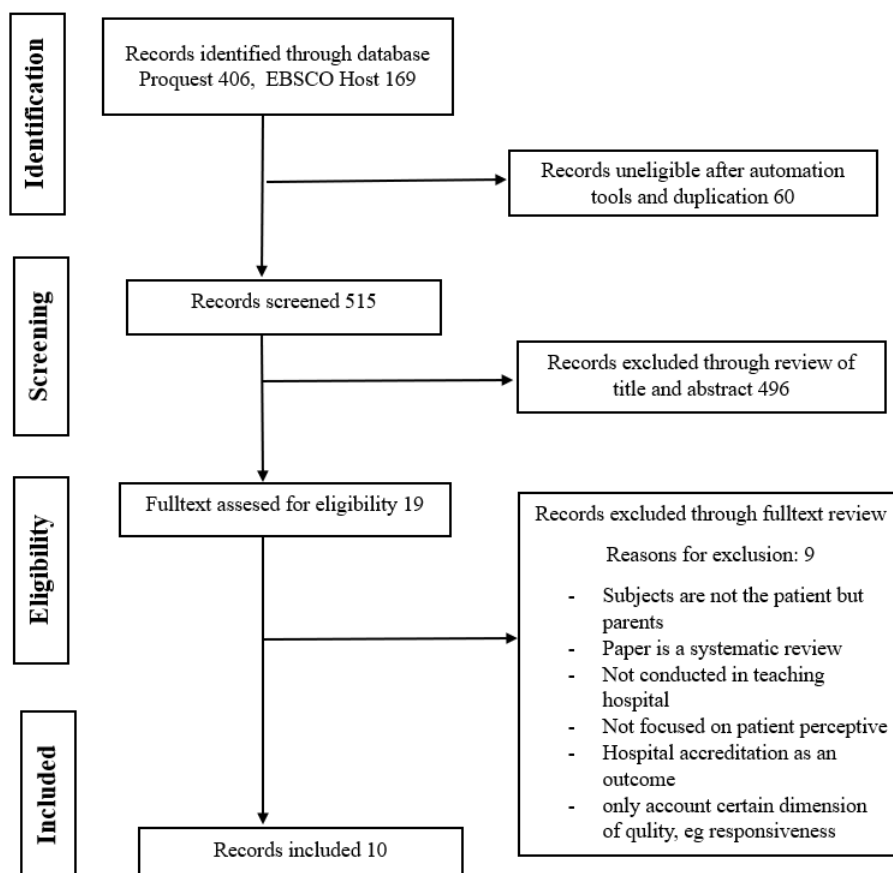
This is a scoping review using the two databases used, namely Proquest and EBSCO Host. A total of 575 articles were obtained, consisting of Proquest (n=406) and EBSCO Host (n=169). After checking

for duplication and eliminating it with an automatic machine as many as 60. 515 articles were obtained. Then again sorting abstracts and titles based on inclusion and exclusion criteria, the final result was 19

titles. After the eligibility selection was carried out on fulltext, 11 appropriate titles were obtained. Then all the articles were extracted and investigated the methods, results and conclusions.

**Table 1. PICOS inclusion and exclusion criteria**

Parameter	Inclusion criteria	Exclusion
People/ population	Patients treated both inpatient and outpatient at teaching hospital	Management, provider, stake holder, dan others
Intervention	-	-
Comparison	Hospital service quality	Non teaching hospital
Outcome	Patient satisfaction	-
Study design	Quantitative study using spesific framework	Qualitative study



**Figure 1. Flow chart for article selection based on PRISMA guidelines**

### **3. Results**

A total of 575 articles were obtained from the search, with 406 articles retrieved from Proquest and 169 articles from Medline (EBSCOhost). After removing 60 duplicate and automated records, 515 articles underwent title and abstract screening. Among them, 19 articles were assessed for eligibility based on their full-text content, while 496 articles were excluded due to unsuitable titles or abstracts. During the full-text review, 9 articles were further excluded as they did not meet the inclusion criteria or were inaccessible. Consequently, 10 articles were found to be relevant to the study question and met the predefined criteria. The summary of the included studies is shown in table 2. It showed that the included studies were published in 2020 (n=7), 2019 (n=1), 2017 (n=4), and 2016(n=1), and 2015 (n=3). Most of them were conducted in developing countries, Iran (N=4 ), India (n=1), Egypt (n=1), Ethipoia (n=1), Brazil

(n=1), and some from developed countries (from Portugal and USA one study each). All of the studies were cross sectional in design, some conducted in multi center, some in only one place, and others were conducted on epidemiology basis.

Most of the studies (n=7) used respondents from inpatient departments, 2 studies took respondents from outpatient clinics, and one study collected data from epidemiology survey. Despite the already well known SERVQUAL model by Parasuraman, most of the studies used standardized questionnaires developed by the author, only two studies used SERVQUAL (tangible, assurance, responsibility, responsiveness, and empathy) with modifications as their framework. One study used Hospital Quality Assessment Tool-Internment Adults (IAQH-IA) as measurement. One study from Brazil compared the satisfaction index from patient's admission route, whether from emergency department or from inpatient service.

**Table 3. The summary of the included studies**

Studi	Country, year	Types of study	Aim of study	Framework and analysis	Sample size	Result
Asamrew et al (3)	Ethiopia, 2020	Cross sectional study	Examining the degree of patient satisfaction with inpatient services and the factors influencing it.	A 19 item- pretested structured interview questionnaire: Service utilization, patient and health care provider interaction, and facility-related information	398 inpatients	Satisfaction rate among patients who received services in the hospital was only 46.2%. Notably, several factors emerged as strong predictors of patient satisfaction, including physician service, laboratory and radiology services, pain management, inpatient pharmacy service, toilet cleanliness, room accommodation, and dietary service.
Abbasi-Moghaddam et al(4)	Iran, 2019	Cross sectional study	Tassess the patients' perceptions of the quality of services provided at clinics within teaching hospitals affiliated with Tehran University of Medical Sciences in Iran.	Questionnaire for accessibility, appointment, admission process, physical environment, physician consultation, information provision to patient, sevice cost, service quality. T test, Analysis of varians (ANOVA), and Pearson correlation coefficient were used for analysis	400 outpatient clinics	Among the participants, 2.5% rated the quality of outpatient services as low, 40% as average, and 57.5% as good. The patients held particularly positive views regarding physician consultations, service costs, admission procedures, and the provision of information to patients.
G. Silva AG, et al(5)	Portugal , 2017	Case study	To derive satisfaction models and analyzed the relationship between quality, satisfaction and	Data were gathered using the Hospital Quality Assessment Tool-Internment Adults (IAQH-IA), a standardized self-	434 patients, were hospitali	Discharge and housing are dissatisfied, but low impact on perceived quality. Information is the aspect that is more important to act, presenting high impact

			patient attitudes.	administered questionnaire was employed to assess multiple aspects of patient satisfaction throughout their hospital experience. These aspects encompassed admission procedures, daily care, provision of information, interactions with nurses, doctors, and other staff, accommodation conditions, discharge process, intention to revisit the hospital, and likelihood of recommending the hospital to family and friends.	zed for at least 2 nights	on perceived quality and consequently on overall satisfaction. Daily care in hospital, nursing staff and medical personnel considered service strengths, with high values in perceived quality. Gender has a significant influence on inpatient perceived quality, and women are the most satisfied.
Bahrampour M, et al(6)	Iran, 2017	Descriptive, cross sectional study	to apply discrete choice experiment (DCE) and elicit patient preferences in medical centers to rank certain healthcare quality factors.	Using 12 scenarios cross-sectional questionnaire developed by authors. Patient preferences were identified by calculating the characteristics' marginal effects and prioritizing them. The generalized estimation equation (GEE) model was used to determine attribute effects on patient preferences.	167 inpatients	Physical examination was the most important attribute, other keys include cleanliness, training after discharge, medical staff attention, waiting for admission, and staff attitude.
Izadi A, et al(7)	Iran, 2017	Cross sectional descriptive study	To measure Hospital service quality provided to surgical and medical inpatients	IPA measured the relationship between importance (tangibility, reliability, responsiveness, assurance, empathy, social accountability, service delivery process and service organization) and patient perceptions about health	268 inpatient s admitted for more than 24	Findings showed a a significant disparity between the perceived importance and actual performance of services. According to the patients' perspective, tangibility was deemed the most crucial aspect, whereas reliability exhibited the highest level of

Ghazanfar A, et al (8)	Islamabad Pakistan, 2017	Cross sectional comparative study	To evaluate and make a comparison of patients' satisfaction regarding the services offered in public and private hospitals and to identify factors linked to patients' satisfaction.	provider performance. Interview using SERVQUAL instrument. Z test and Spearman test was used to see patient satisfaction with age, education level, number of admissions, doctor's waiting time, and length of hospital stay. Chi square used to see association between type of admission, marital status, and gender, with satisfaction	240 patients	hours performance. Private sector hospitals received higher satisfaction scores compared to public sector hospitals overall. Married persons were more satisfied. There was a weak correlation between satisfaction and number patient admission, education level, number of admissions, length of stay.
Pouragha B, Zarei E. (9)	Iran, 2016	Cross sectional study	To explore the effect of outpatient service quality on patient satisfaction in teaching hospital	Questionnaire of 44 items, consist of accessibility, appointment, perceived waiting time, admission process, physical environment, physician consultation, information to patient, perceived cost of services, overall service quality	500 outpatients	On service quality dimension, physician consultation had highest score while perceived waiting time got lowest score. Service costs, physician consultation, physical environment, and information given found to be the most important determinants of patient satisfaction.
Haytam S. Diab (10)	Egypt, 2015	Cross sectional study	To asses level of patient satisfaction fot the provided healthcare services	Questionnaires made by author. In four domain of patient satisfaction: physician care of patients, nursing care and performance, administrative facilities, and physical environment.	353 outpatients in two University hospitals	Special relation between age dan gender with patient satisfaction. Physicians' care of patients was number one domain for patient satisfaction, followed by nursing care.
Molina KL, Souto de Moura MGS	Brazil, 2015	Cross sectional study	To analyze the patients satisfaction according to the form of hospital stay	used two sets of data: sociodemographic variables and patient satisfac- tion attributes; tools were produced	366 inpatients, 174 from	Lowest satisfaction levels found in nutrition and cleaning teams. Education levels, health insurance, accompaniment

<p>(11)</p> <p>Russel R, Johnson DM, White SW. <sup>12</sup></p>	<p>USA, 2015</p>	<p>Epidemiology survey</p>	<p>at teaching hospital</p> <p>To provide healthcare providers with the analytic capabilities to better understand quality of care from patient's point of view</p>	<p>based on interviews and statistical analysis: admission, medical team, nutrition team, cleaning team, discharge, general satisfaction</p> <p>Data from multi-specialty Medical Practice Group. Regression analysis and paired comparison used for analysis of patient's perception of service quality</p>	<p>emergency services and 192 through inpatient service. 1514 questionnaires to patients and relatives</p>	<p>in room care, and hospitalization period gave significant determinant to patients satisfaction level.</p> <p>Patients admitted on emergency services gave more satisfaction result than from admission service</p> <p>Older patients tends to be more satisfied than younger one. Clinic type and physicians specialty also affected patient perception in quality of care.</p>
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#### **4. Discussion**

Zineldin (2006) mentions the quality of health services as "the ability to do the right thing, at the right time, in the right way, and for the right patient, so as to get the best results".<sup>2</sup> The concept, which was first introduced by Parasuraman et al in 1985<sup>13</sup>, arised from awareness that assessing the quality of services is much more difficult than assessing the quality of goods. Very few studies under the 1980s assessed the aspects that influence the service quality of a service business.

The sustainability of an organization depends on services given. Scholars agree that delivering high-quality services is essential for gaining customer loyalty, establishing a competitive edge, securing long-term financial viability, and influencing the market demand for goods and services. Quality is a precursor to customer satisfaction, and there is a direct relationship between the two; that is, superior service quality results in better customer satisfaction. Achieving customer satisfaction is possible when an organization successfully fulfills customer needs and expectations.<sup>14</sup> According to Lewis and Booms cited (2011), the quality of a service is measured by how well it meets the needs and wants of customers, and by the precision in meeting customer expectations. Customer satisfaction is an outcome tied to a specific product,

including aspects like product expectations and the experience of consumption, and is assessed at a specific moment in time<sup>15</sup>.

The SERVQUAL model assesses quality as a comparison between service expectations and services received. According to Parasuraman et al, there are five gaps in service quality, four gaps arising from service providers in providing services to consumers, and one gap in the form of expectations and reality received by consumers. Initially, the SERVQUAL model consisted of ten determinants, namely reliability, responsiveness, competence, access, hospitality, communication, credibility, safety, understanding of patient needs, and physical comfort. However, Parasuraman et al conducted an evaluation and re-analysis of the SERVQUAL model built previously. They ultimately the existing model. Several variables were still different, while several other variables were considered similar so they were combined. The end result is a SERVQUAL model with five dimensions.<sup>16</sup>

Several health sectors both public and private in various parts of the world use the SERVQUAL model, both pure and modified. Shalini Nath Tripathi et al used the SERVQUAL model and applied it to health services.<sup>17</sup> They assessed the gap in health service quality between patient

expectations and services received by patients on five service dimensions, namely tangibility, reliability, responsiveness, assurance, and empathy through the multi-objective multi-criteria model AHP (analytic hierarchy process) to measure the most important dimensions of quality of health services and then focus on making improvements in that aspect.

They assess aspects of patient expectations before the service is carried out and aspects of patient assessment after the service is provided. A negative value indicates the service received is below the expectations of the patient. A positive value means that the service received exceeds patient expectations. From this study it was found that three of the five dimensions of service quality, namely reliability, responsiveness, and empathy, showed negative values. This means that the patient's expectations of these three aspects are higher than what they get. Reliability has the lowest value, where this dimension is assessed from five aspects, namely transparency, reliability, sympathy, timeliness, and promise<sup>17</sup>

Other researchers are trying to develop modifications to the quality of health services through a model they call HEALTHQUAL.<sup>18</sup> HEALTHQUAL uses four dimensional questions, namely "environment" (11 items), "empathy" (12 items), "efficiency" (3 items), and

"effectiveness" (4 items) to assess service quality according to patients in two parts, patient perception (real quality) and patient expectations (ideal quality). While Fatima T et al used customized model consist of physical environment, customer friendly environment, communication, privacy & safety, and responsiveness to analyze the relative significance of quality measurements in anticipating the patients' satisfaction and loyalty.<sup>19</sup>

Reza Nemati, et al (2020)<sup>20</sup> conducted research using the HEALTHQUAL model by comparing the quality of service between teaching and non-teaching hospitals in Iran by assessing patient perceptions and expectations of service quality multiplied by the assessment score of the importance of these aspects according to patient standards. The results obtained are evidence that patient expectations and perceptions of service quality in patients who go to non-teaching hospitals are higher than teaching hospitals. The gap between expectations and reality received by patients in non-teaching hospitals was higher than in teaching hospitals (-0.64 compared to -0.42,  $p=0.01$ ).

A systemic review conducted by Swapnarag Swain, et al (2018) examined all models of assessing service quality and patient satisfaction, both the SERVQUAL method, modified SERVQUAL, and non

SERVQUAL and then built a new framework model called the 6Q framework to assess service quality in terms of perception, patients and the level of patient satisfaction. They divide it into six dimensions, technical quality, procedural quality, infrastructure quality, quality of interaction, personal quality, and quality of social support.<sup>21</sup>

In the setting of teaching hospital, a study conducted by Asamrew et al in a hospital University at Ethiopia. They showed that patients mostly satisfied with physician service and dissatisfied with toilet cleanliness. Patients were satisfied with patient-health care provider interaction (physician service, laboratory and radiology services, pain management, and inpatient pharmacy service) that were significant predictors of net overall satisfaction of patients<sup>3</sup>. A study from Malaysia by Bahari Mohammed<sup>22</sup> showed that healthcare services depend on tangible aspect to enhance patient satisfaction. Due to their high credence attributes, such physical evidence serves as an indicator for patients' perceptions of service quality. In line with this, Izadi A et al<sup>7</sup> found discrepancy between actual value of service quality and patient perception. According to the patient, physical dimension did most important role of their opinion of service quality, while reliability showed highest score in performance.

Other factor that had high influence in patient perception in teaching hospital service quality was physician and nursing care. Study conducted by Haytham et al<sup>10</sup> showed that Patient satisfaction was most influenced by the care provided by doctors, with nursing care coming in as the second most important factor. Other study from Brown and Swartz evaluated healthcare services by considering both the healthcare provider and patient viewpoints through a gap score analysis. They revealed that interactions with physicians were the most crucial factor in patient satisfaction<sup>23</sup>, like Pouraga finding that physician consultation had highest score on service quality dimension, while perceived waiting time got lowest score.<sup>9</sup>

Moghaddam et al did study to evaluate correlation between each dimensions of service quality from patient view point at teaching hospital. They found that out of eight dimensions, physician consultation reached the highest correlation with patient view point of service quality. The next two indicators for quality were cost of service and admission process<sup>4</sup>. Other findings from Russell et al (2015)<sup>12</sup> showed that older patients tends to be more satisfied than younger one. Clinic type and physicians specialty also affected patient perception in quality of care.

As such in public hospital, patient perception in service quality in teaching hospital was generally low in the aspects of responsiveness and empathy. In Brazil, Molina et al (2015), in the study of patient admitted in emergency and inpatient department in teaching hospitals found that lowest satisfaction levels found in nutrition and cleaning teams <sup>11</sup>. Fatima T (2018) when conducting study towards private hospitals in Pakistan found that

In a study from Indonesia, Catur Wulandari et al in 2021 concluded from the study of two public hospitals that patient satisfaction with healthcare quality was significantly different based on the type of inpatient class, especially in terms of effectiveness, accessibility, patient-centeredness, and equity. It can be concluded from this study that delivered nursing care fairly and professionally regardless of their financial background and insurance support <sup>24</sup>. Education levels, health insurance, accompaniment in room care, and hospitalization period also gave significant determinant to patients satisfaction level.<sup>11</sup>

According to Ullah et al, new variables had been arised in the setting of hospital service quality of teaching hospital. In teaching hospitals, the chance of committing preventable medical errors is high due to the presence of students. So preventable medical error is a serious

threat to the quality of healthcare and need to be addressed. In addition to offering tertiary-level medical care, teaching hospitals also serve as educational institutions for medical students at various stages, including undergraduate and postgraduate levels. Consequently, the primary objective of these hospitals is to impart clinical education to medical students, a function that is distinct from the provision of curing and caring <sup>25</sup>.

## **5. Conclusion**

There are many methods used to assess the quality of hospital services, from the patient's point of view. The oldest method is SERVQUAL, which is still relevant today. There have been many modifications to the SERVQUAL concept, especially in relation to health services. Studies showed that physician consultation and care and nursing care gave most powerful aspects in the patient perception of service quality. Surprisingly, physical aspects did play important role in perceived service quality towards patients visiting many teaching hospital. Other dimensions such patient information, service costs, laboratory and radiology services, and admission process also effected service quality unevenly in various studies. The findings provide healthcare managers as well as academic physicians, and university leader with

valuable information regarding the variables associated with patient satisfaction to service care of teaching hospital. This knowledge equips them with the ability to better address and fulfill the needs and preferences of patients.

#### Suggestion

A model measuring hospital service quality in teaching hospitals, consist of three dimension of services in teaching hospitals, cure, care, and teach, especially in Indonesia should be developed.

#### Funding

No external funding was received for the review, writing, or publication of this paper.

**Conflict of Interest:** The authors have no conflicts of interest to disclose regarding the writing of this article.

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